



**US Army Corps
of Engineers**
Huntington District

Public Notice

In reply refer to: **Public Notice No.** 199800424-4 **Issuance Date:** September 21, 2001
Application No.: **Expiration Date:**
Ohio River & Tributaries **October 21, 2001**
Address comments to: US Army Corps of Engineers, Huntington District
502 Eighth Street
ATTN: CELRH-F
Huntington, West Virginia 25701-2070

TO WHOM IT MAY CONCERN: The following application has been submitted for a Department of the Army Permit under the provisions of Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act. This notice serves as the Corps of Engineers' request to the Ohio Environmental Protection Agency to act on Section 401 Water Quality Certification for the following application.

APPLICANT: Ohio River Pipe Line LLC
Ms. Daragh L. Porter
539 S. Main Street
Findlay, Ohio 45840-3295

LOCATION: The proposed project is located in numerous wetlands and streams from Kenova, in Wayne County, West Virginia to Columbus, in Franklin County Ohio. The project begins in Kenova, West Virginia, crosses the Ohio River and continues north through Lawrence, Gallia, Jackson, Vinton, Hocking, Fairfield, Pickaway and Franklin Counties Ohio.

DESCRIPTION OF PROPOSED WORK: The applicant has submitted an application for multiple crossings of waters of the United States for a 14-inch diameter pipeline that is designed to carry approximately 80,000 barrels per day of refined petroleum such as gasoline, diesel, jet fuel, etc. The applicant states that the pipeline will provide a safe, economical, and efficient method for the transport of needed petroleum products to the Central Ohio area.

The proposed pipeline would be approximately 149 miles in length. Information provided by the applicant indicates that the proposed pipeline, access roads and stringing areas would transverse 418 waters of the United States (363 streams and 55 wetlands). Fourteen of the stream crossings would be made using directional boring technology. The Ohio River, the Scioto River, two streams identified as Exceptional Warm Water Habitat streams (S237 and S298) and ten additional streams (S14, S71, S331, S244, S273, S365, S302, S320, S526 and S409-R) would be directionally bored. One wetland (W9) will also be bored (see the attached drawings). The applicant plans to install the pipeline through waters of the Untied States using one of the following methods: directional bore (boring or HDD technology), dam and pump, flume, or open-cut

methods. The applicant indicates that the streambank contours would be restored immediately upon completion of the crossings to pre-installation conditions to the extent practicable. Stream crossings would be perpendicular or as nearly perpendicular to the stream axis as practicable in order to decrease the length of the crossing. Most streams would be crossed using the open-cut method during low flow. Open-cutting of shallow bedrock streams may involve contact with the underlying bedrock. In these areas, the trench would be filled with clean, stable rock to reduce erosion. Best management practices (BMPs) have been developed by the applicant and outlined in their stormwater pollution plan. Approximately 3.85 acres of wetland would be impacted by the proposed project (0.63 acre of forested wetland and 3.22 acres of non-forested wetland). To offset the loss of wetlands impacted by this proposed project, the applicant proposes to restore 7.7 acres of wetland at the Slate Run Mitigation Bank. The applicant indicates that after installation is completed at a crossing, wetland contours would be restored, as near as practicable, to pre-installation contours.

The project does not require siting within a special aquatic site (in this case a wetland) to fulfill its basic purpose and is considered a non-water dependent activity. The Clean Water Act Section 404(b)(1) Guidelines state that for non-water dependent activities, practicable alternatives that do not involve special aquatic sites are presumed to be available unless clearly demonstrated otherwise. Therefore, the applicant is required to provide an alternatives analysis which must overcome that presumption prior to receiving authorization for the placement of fill in the wetlands. The applicant has submitted an alternatives analysis and it is currently being reviewed.

Plans of the proposed work are attached to this notice.

A Section 401 Water Quality Certification is required for this project. It is the applicant's responsibility to obtain that certification from the Ohio Environmental Protection Agency.

At this time, the applicant is working with the Ohio State Historic Preservation Office concerning cultural resources within the project area. A copy of this public notice will be furnished to the Ohio Historic Preservation Office and the West Virginia State Historic Preservation Office for their review. Comments concerning archeological sensitivity of a project area should be based upon collected data.

This project is located within the known or historic range of the following endangered species:

Indiana bat
Pink mucket pearly mussel
Bald Eagle
American Burying beetle
Clubshell mussel
Scioto Madtom
Northern Riffleshell
Peregrine falcon.

The Huntington District has consulted the most recently available information and has determined that the project is not likely to affect the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat of such species which has been determined to be critical. This public notice serves as a request to the U.S. Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).

Two public hearings concerning this project will be held jointly with the Ohio Environmental Protection Agency. The time and location will be announced in a separate Public Notice at least 30 days prior to the public hearings.

Interested parties are invited to state any objections they may have to the proposed work. The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental

Protection Agency, under the authority of Section 404(b) of the Clean Water Act. Written statements on these factors received in this office on or before the expiration date of this public notice will become a part of the record and will be considered in the final determination. A permit will be granted unless its issuance is found to be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are used to determine the overall public interest of the proposed activity.

If you have any questions concerning this public notice, please contact Ms. Rebecca A. Rutherford at (304) 529-5210.



Michael D. Gheen
Chief, Regulatory Branch

(O, W)

TABLE 3.2. Wetlands identified within the ROW of the proposed ORPL pipeline.

Wetland ID No.	Map Sheet No.	County (Ohio)	Wetland Type ¹	ORAM Category	ORAM Score	Crossing Length (ft)	Area (acres)	Area (acres)	Crossing Method
Wetlands along the proposed right-of-way									
W80	9	Lawrence	PEM	1	21.5	27	0.02	0.03	Timber mat
W2	12	Gallia	PEM	1	29.5	161	0.10	0.15	Timber mat
W3	13	Gallia	PEM	Gray 2	30.5	32	0.04	0.06	Timber mat
W44	13	Gallia	PEM/PFO ³	Modified 2	38.5	62	0.14	0.21	Timber mat
W45	17	Jackson	PEM	2	55.0	224	0.25	0.37	Timber mat
W6	17	Jackson	PEM	Modified 2	38.0	120	0.11	0.17	Timber mat
W7	17	Jackson	PEM	Modified 2	40.5	45	0.06	0.09	Timber mat
W90 ⁸	18	Jackson	PEM	1	21.0	0	0.00	0.00	Timber mat
W91	18	Jackson	PEM	1	25.0	48	0.04	0.06	Timber mat
W8	20	Jackson	PEM	1	27.0	48	0.04	0.07	Timber mat
W9	20	Jackson	PEM	Gray 2	30.0	N/A	N/A	N/A	HDD ²
W92	20	Jackson	PEM/POW	Modified 2	42.0	8	0.01	0.02	Timber mat
W12	21	Jackson	PEM	Gray 2	33.0	111	0.11	0.17	Timber mat
W46	22	Jackson	PEM	1	21.0	121	0.11	0.16	Timber mat
W50	23	Jackson	PEM	Gray 2	31.0	23	0.03	0.04	Timber mat
W51	23	Jackson	PEM	Modified 2	36.0	12	0.02	0.03	Timber mat
W13	23	Jackson	PEM	Modified 2	38.0	28	0.04	0.06	Timber mat
W14 ¹⁰	23	Jackson	PEM	Modified 2	39.0	0	0.01	0.02	Timber mat
W15 ⁸	23	Jackson	PEM	Modified 2	39.0	0	0.00	0.00	Timber mat
W52 ⁸	25	Jackson	PEM	Gray 2	34.0	10	0.00	0.00	Timber mat
W16	26	Jackson	PEM	1	19.0	37	0.03	0.04	Timber mat
W18	26	Jackson	PFO	2	50.5	117	0.13	0.19	Timber mat
W20	27	Jackson	PEM	1	29.0	25	0.01	0.02	Timber mat
W93	27	Jackson	PEM	1	20.0	24	0.02	0.03	Timber mat
W21	28	Jackson	PSS/PEM	2	52.0	13	0.02	0.03	Timber mat
W41	28	Jackson	PEM	Modified 2	39.0	19	0.02	0.03	Timber mat
W22	28	Vinton	PEM	Gray 2	34.0	54	0.06	0.09	Timber mat
W26	29	Vinton	PEM	1	26.0	40	0.03	0.05	Timber mat
W27 ⁸	31	Vinton	PEM	2	53.0	0	0.00	0.00	Timber mat
W28	32	Vinton	PEM	2	51.0	24	0.02	0.03	Timber mat
W29	32	Vinton	PEM	Gray 2	31.0	39	0.02	0.03	Timber mat
W53	32	Vinton	PEM	1	29.0	15	0.02	0.03	Timber mat
W30	36	Hocking	PEM	Modified 2	30.0	69	0.06	0.08	Timber mat
W65	36	Hocking	PEM	2	53.0	28	0.02	0.03	Timber mat
W31	37	Hocking	PEM/PFO ³	Modified 2	36.0	36	0.06	0.09	Timber mat

TABLE 3.2. Wetlands identified within the ROW of the proposed ORPP pipeline.

Wetland ID No.	Map Sheet No.	County (Ohio)	Wetland Type ¹	ORAM Category	ORAM Score	Crossing Length (ft)	Area (acres)	Area (acres)	Crossing Method
W54	39	Hocking	PEM	2	48.0	45	0.05	0.07	Timber mat
W33	40	Hocking	PEM	2	52.0	96	0.10	0.15	Timber mat
W34	41	Hocking	PEM/PFO ³	2	50.0	164	0.19	0.29	Timber mat
W35	41	Hocking	PEM	Modified 2	42.0	104	0.05	0.08	Timber mat
W36	41	Hocking	PEM	2	46.0	28	0.02	0.03	Timber mat
W61	43	Hocking	PFO	Modified 2	40.0	16	0.01	0.02	Timber mat
W38	44	Fairfield	PEM	Gray 2	33.5	81	0.09	0.14	Timber mat
W85	45	Fairfield	PFO	2	52.0	8	0.00	0.01	Timber mat
W86 ⁷	45	Fairfield	PEM	1	24.0	0	0.00	0.00	Timber mat
W84 ⁹	49	Pickaway	PFO	Modified 2	38.0	40	0.00	0.00	Timber mat
W40	51	Pickaway	PEM	2	45.0	16	0.02	0.03	Timber mat
ARTIM-W1 ⁶	53	Pickaway	PEM	Modified 2	36.5	19	0.07	0.10	Timber mat
W63	56	Pickaway	PFO	Gray 2	34.0	240	0.28	0.41	Timber mat
W68	60	Franklin	PEM	1	19.0	37	0.05	0.07	Timber mat
Wetlands along proposed access roads									
AR7-W1 ⁵	4	Lawrence	PEM	1	26.0	8	0.00	0.00	Timber mat
AR14-W1	8	Lawrence	PEM	1	25.0	15	0.00	0.00	Timber mat
AR4630RA-W34	41	Hocking	PEM/PFO ³	2	50.0	50	0.00	0.00	Timber mat
AR-W87	45	Fairfield	PSS	Modified 2	30.5	7	0.00	0.00	Timber mat
AR-W88	45	Fairfield	PEM	1	21.0	10	0.00	0.00	Timber mat
AR-W89	45	Fairfield	PEM	1	23.0	0	0.00	0.00	Timber mat
					Totals for PEM Wetlands ⁴ :	2163.00	2.13	3.19	
					Totals for PSS and PS/SP/EM Wetlands:	20.0	0.02	0.03	
					Totals for PFO Wetlands:	421.00	0.42	0.63	

¹ Cowardin et al. 1979

² Horizontal Directional Drill

³ Temporary impacts due to installation will be limited to the PEM component of the wetland system

⁴ Total includes PEM component of PEM/PFO wetlands

⁵ AR designation is for those wetland crossings that occur on access roads

⁶ Wetland is located within pipe-stringing area at this location, potential impact is in this work area

⁷ Wetland is located within the work area and will not be crossed by the pipeline

⁸ Wetland is located within the ROW but is not crossed by the pipeline and will not be impacted by installation activities

⁹ Wetland is located within the work area and will not be crossed by the pipeline, but trees will be cut down due to installation activities

¹⁰ Wetland is located within the ROW, not crossed by the pipeline, but may be impacted by installation activites

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
Streams along the proposed right-of-way										
N/A	1	Wayne/WV Lawrence/OH	Ohio River	N/A	P		no impacts		HDD	Roadway
S2	2	Lawrence	Ohio River trib	20	I			10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S321	2	Lawrence	Tributary to Stream S2	28	E			1	Open-cut wet	Timber mat bridge
S3R	2	Lawrence	Tributary to Stream S2	25	E			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S4A	2	Lawrence	Soldie Creek	42	I			20	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S4B	2	Lawrence	Soldie Creek	41	I			20	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S4C	2	Lawrence	Soldie Creek	44.5	I			20	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S7R	2	Lawrence	Soldie Creek trib	36	I			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S7B	2	Lawrence	Soldie Creek trib	43	I			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S7C	2	Lawrence	Soldie Creek trib	33	I			4	Open-cut wet	Timber mat bridge
S10	2	Lawrence	Soldie Creek trib	36	I			3	Open-cut wet	Timber mat bridge
S11	2	Lawrence	Soldie Creek trib	37	E			1	Open-cut wet	Timber mat bridge
S12	2	Lawrence	Lick Creek trib	31.5	E			3	Open-cut wet	Timber mat bridge
S13	2	Lawrence	Lick Creek trib	26	I			2	Open-cut wet	Timber mat bridge
S14	2	Lawrence	Lick Creek trib	40	I		no impacts	8	Bore with road	Timber mat bridge
S15	3	Lawrence	Lick Creek	43.5	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S16R	3	Lawrence	Lick Creek trib	29.5	I	WWH	AG, IND, PCR	2	Open-cut wet	Timber mat bridge
S17	3	Lawrence	Lick Creek trib	33.5	I			1	Open-cut wet	Timber mat bridge
S18	3	Lawrence	Lick Creek trib	26	I			1	Open-cut wet	Timber mat bridge
S19	3	Lawrence	Little Ice Creek trib	61	P			3	Open-cut wet	Timber mat bridge
S20	3	Lawrence	Little Ice Creek	74.3	P	WWH	AG, IND, PCR	12	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S612	4	Lawrence	Little Ice Creek trib	51.5	I			8	Open-cut wet	Timber mat bridge
S21	4	Lawrence	Little Ice Creek trib	36	I			1	Open-cut wet	Timber mat bridge
S22	4	Lawrence	Ice Creek trib	39.5	I		no impacts	2	Not crossed by pipe	Timber mat bridge
S322	4	Lawrence	Ice Creek trib	34	E			1	Open-cut wet	Timber mat bridge
S23	4	Lawrence	Ice Creek trib	35	E			1	Open-cut wet	Timber mat bridge
S24	4	Lawrence	Ice Creek trib	41	I			1	Open-cut wet	Timber mat bridge
S25	4	Lawrence	Ice Creek trib	27	E			1	Open-cut wet	Timber mat bridge
S26	4	Lawrence	Ice Creek trib	20.5	E			1	Open-cut wet	Timber mat bridge
S27	4	Lawrence	Ice Creek trib	28.8	I			1	Open-cut wet	Timber mat bridge
S28	4	Lawrence	Ice Creek	62	P	WWH	AG, IND, PCR	45	Open-cut dry	Rockfill & Culvert/Timber mat bridge as appropriate
S29	4	Lawrence	Ice Creek trib	28	I			1	Open-cut wet	Timber mat bridge
S30	4	Lawrence	Ned Fork trib	38	I			3	Open-cut wet	Timber mat bridge
S31	5	Lawrence	Ned Fork	43	P	WWH	AG, IND, PCR	3	Open-cut wet	Timber mat bridge
S32	5	Lawrence	Dog Fork trib	35	I			2	Open-cut wet	Timber mat bridge
S33	5	Lawrence	Dog Fork trib	41	I			1	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S613	5	Lawrence	Dog Fork trib	28	E			2	Open-cut wet	Timber mat bridge
S35	6	Lawrence	Dog Fork trib	53.5	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S36	6	Lawrence	Dog Fork trib	44	1			3	Open-cut wet	Timber mat bridge
S37	6	Lawrence	Dog Fork trib	36	1			2	Open-cut wet	Timber mat bridge
S38	6	Lawrence	Dog Fork trib	45	1			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S39	6	Lawrence	Dog Fork trib	39	E			1	Open-cut wet	Timber mat bridge
S40A	6	Lawrence	De Loss Creek	50.8	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S41	7	Lawrence	DeLoss Creek trib	17.5	E			1	Open-cut wet	Timber mat bridge
S40B	7	Lawrence	De Loss Creek	56.5	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S40C	7	Lawrence	DeLoss Creek	41	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S43	8	Lawrence	Symmes Creek trib	17	1			5	Open-cut wet	Timber mat bridge
S512	9	Lawrence	Symmes Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S513	11	Lawrence	Shappa Creek trib	27	E			1	Open-cut wet	Timber mat bridge
S44	8	Lawrence	Sharpes Creek	48.5	P	WWH	AG, IND, PCR	8	Open-cut wet	Timber mat bridge
S45A	8	Lawrence	Symmes Creek	48	P	WWH	SRW, AG, IND, PCR	40	Open-cut dry	Rockfill / timber mat bridge
S46	9	Lawrence	Brushy Branch trib	35	E			1	Open-cut wet	Timber mat bridge
S47	9	Lawrence	Brushy Branch trib	29	E			1	Open-cut wet	Timber mat bridge
S49	9	Lawrence	Brushy Branch trib	29	1			1	Open-cut wet	Timber mat bridge
S32	9	Lawrence	Long Creek trib	38	1			1	Open-cut wet	Timber mat bridge
S53A	9	Lawrence	Long Creek	43	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S53B	9	Lawrence	Long Creek	47	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S55R	9	Lawrence	Long Creek trib	45	I			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S56A	9	Lawrence	Long Creek trib	37	E			1	Open-cut wet	Timber mat bridge
S56B	9	Lawrence	Long Creek	20	I			2	Open-cut wet	Timber mat bridge
S53C	9	Lawrence	Long Creek	61	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S60	10	Lawrence	Buck Creek	43	P	WWH	AG, IND, PCR	3	Open-cut wet	Timber mat bridge
S63	10	Lawrence	Symmes Creek trib	41	P			1	Open-cut wet	Timber mat bridge
S64	10	Lawrence	Symmes Creek trib	36	I			2	Open-cut wet	Timber mat bridge
S65	11	Gallia	Symmes Creek trib	34.5	E			1	Open-cut wet	Timber mat bridge
S66	11	Gallia	Pigeon Creek trib	32.5	E			2	Open-cut wet	Timber mat bridge
S67A	11	Gallia	Pigeon Creek	68.5	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill/culvert
S70	11	Gallia	Pigeon Creek trib	31	E			1	Open-cut wet	Timber mat bridge
S71	11	Gallia	Pigeon Creek trib	30	I	no impacts		2	Bare with road	Timber mat bridge
S67B	11	Gallia	Pigeon Creek	44	P	WWH	AG, IND, PCR	4	Open-cut wet	Timber mat bridge
S67C	11	Gallia	Pigeon Creek	54	P	WWH	AG, IND, PCR	5	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S75	11	Gallia	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S76	12	Gallia	Pigeon Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S77	12	Gallia	Pigeon Creek trib	28.5	I			1	Open-cut wet	Timber mat bridge
S79	12	Gallia	Pigeon Creek trib	33.5	E			2	Open-cut wet	Timber mat bridge
S80	12	Gallia	Pigeon Creek trib	34	E			2	Open-cut wet	Timber mat bridge
S81A	12	Gallia	Symmes Creek trib	29.8	I			2	Open-cut wet	Timber mat bridge
S81B	12	Gallia	Symmes Creek trib	45.5	I			3	Open-cut wet	Timber mat bridge
S82	12	Gallia	Symmes Creek trib	34	I			2	Open-cut wet	Timber mat bridge
S83	13	Gallia	Symmes Creek trib	46	I			2	Open-cut wet	Timber mat bridge
S84	13	Gallia	Symmes Creek trib	43.5	I			5	Open-cut wet	Timber mat bridge
S85	13	Gallia	Sand Fork Creek	62	P	WWH	AG, IND, PCR	12	Open-cut wet	Rockfill/culvert
S86	14	Gallia	Symmes Creek trib	26	E			3	Open-cut wet	Timber mat bridge
S87	14	Gallia	Symmes Creek trib	28	E			3	Open-cut wet	Timber mat bridge
S88	14	Gallia	Symmes Creek trib	28	E			1	Open-cut wet	Timber mat bridge
S89	14	Gallia	Fork Creek trib	50.5	I			2	Open-cut wet	Timber mat bridge
S330	15	Gallia	Fork Creek trib	33	E			1	Open-cut wet	Timber mat bridge
S329	15	Gallia	Fork Creek trib	33.5	I			1	Open-cut wet	Timber mat bridge
S90	15	Gallia	Fork Creek trib	48	I			6	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S91	15	Gallia	Fork Creek trib	33	E			1	Open-cut wet	Timber mat bridge
S92	15	Gallia	Little Beaver Creek trib	25	E			1	Open-cut wet	Timber mat bridge
S92B	15	Gallia	Little Beaver Creek trib	38.5	I			2	Open-cut wet	Timber mat bridge
S94	15	Gallia	Little Beaver Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S95	15	Gallia	Little Beaver Creek trib	35.8	I			2	Open-cut wet	Timber mat bridge
S96	15	Gallia	Little Beaver Creek trib	26	I			2	Open-cut wet	Timber mat bridge
S98	16	Gallia	Wolf Run trib	35	I			1	Open-cut wet	Timber mat bridge
S99	16	Gallia	Wolf Run trib	30	E			2	Open-cut wet	Timber mat bridge
S100	16	Gallia	Symmes Creek trib	41	E			1	Open-cut wet	Timber mat bridge
S104	16	Gallia	Symmes Creek trib	35.5	I			3	Open-cut wet	Timber mat bridge
S105	17	Jackson	Symmes Creek trib	36	I			5	Open-cut wet	Timber mat bridge
S106	17	Jackson	Symmes Creek trib	32.5	E			2	Open-cut wet	Timber mat bridge
S45B	17	Jackson	Symmes Creek	52	P	WWH	SRV, AG, IND, PCR	35	Open-cut dry	Rockfill & Culvert/Timber mat bridge as appropriate
S108	17	Jackson	Symmes Creek trib	32	I			6	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S109	17	Jackson	Symmes Creek trib	24	E			4	Open-cut wet	Timber mat bridge
S110	18	Jackson	Symmes Creek trib	21	E			1	Open-cut wet	Timber mat bridge
S329	18	Jackson	Symmes Creek trib	35	I			1	Open-cut wet	Timber mat bridge
S330	18	Jackson	Symmes Creek trib	32	E	no impacts		1	Not crossed by pipe	Timber mat bridge
S331	18	Jackson	Symmes Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S332A	18	Jackson	Symmes Creek trib	31.5	I			2	Open-cut wet	Timber mat bridge
S332B	18	Jackson	Symmes Creek trib	26.5	E			1	Open-cut wet	Timber mat bridge
S335	18	Jackson	Symmes Creek trib	30.3	I			3	Open-cut wet	Timber mat bridge
S336R	19	Jackson	Symmes Creek trib	46.5	P			4	Open-cut wet	Timber mat bridge
S113	19	Jackson	Symmes Creek trib	30	E			1	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S114	19	Jackson	Symmes Creek trib	29	1			2	Open-cut wet	Timber mat bridge
S118B	19	Jackson	Symmes Creek trib	24	E			2	Open-cut wet	Timber mat bridge
S117	19	Jackson	Symmes Creek trib	27	E			1	Open-cut wet	Timber mat bridge
S118A	19	Jackson	Symmes Creek trib	26	E			1	Open-cut wet	Timber mat bridge
S121	19	Jackson	Symmes Creek trib	31	E			1	Open-cut wet	Timber mat bridge
S122	19	Jackson	Symmes Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S123	19	Jackson	Symmes Creek trib	20	E			1	Open-cut wet	Timber mat bridge
S125	20	Jackson	Symmes Creek trib	40.5	I			2	Open-cut wet	Timber mat bridge
S331	20	Jackson	Symmes Creek trib (Cleckley Swamp)	52.5	P				HDD	Timber mat bridge
S126R	20	Jackson	Symmes Creek trib (Cleckley Swamp)	41.5	P			15	Open-cut wet	Timber mat bridge
S603	20	Jackson	Symmes Creek trib (Cleckley Swamp)	26	E			5	Open-cut wet	Timber mat bridge
S127R	21	Jackson	Symmes Creek trib	49	P			4	Open-cut wet	Timber mat bridge
S128	21	Jackson	Symmes Creek trib	34	I			2	Open-cut wet	Timber mat bridge
S129	21	Jackson	Symmes Creek trib	38	I			2	Open-cut wet	Timber mat bridge
S335	22	Jackson	Symmes Creek trib*	23.5	I			2	Open-cut wet	Timber mat bridge
S132B	23	Jackson	Sand Run trib	25.5	I			1	Open-cut wet	Timber mat bridge
S132A	23	Jackson	Sand Run trib	26	I			1	Open-cut wet	Timber mat bridge
S339	23	Jackson	Sand Run trib	27	I			2	Open-cut wet	Timber mat bridge
S133	24	Jackson	Dickason Run trib	29.5	E			1	Open-cut wet	Timber mat bridge
S134	24	Jackson	Sand Run	40.5	I			3	Open-cut wet	Timber mat bridge
S341	24	Jackson	Sand Run trib	27.5	E			1	Open-cut wet	Timber mat bridge
S135	24	Jackson	Dickason Run trib	40	I			3	Open-cut wet	Timber mat bridge
S342	24	Jackson	Dickason Run trib	26	E			1	Open-cut wet	Timber mat bridge
S136	25	Jackson	Sugar Run trib	22	I			3	Open-cut wet	Timber mat bridge
S602	25	Jackson	Sugar Run trib	25	E			5	Open-cut wet	Timber mat bridge
S343	25	Jackson	Meadow Run trib	24.5	E			1	Open-cut wet	Timber mat bridge
S137	26	Jackson	Meadow Run trib	29.5	I			2	Open-cut wet	Timber mat bridge
S138	26	Jackson	Meadow Run trib	29.5	I			2	Open-cut wet	Timber mat bridge
S139	26	Jackson	Meadow Run trib	30.5	I			1	Open-cut wet	Timber mat bridge
S140	26	Jackson	Meadow Run trib	26	I			2	Open-cut wet	Timber mat bridge
S141	26	Jackson	Meadow Run trib	29	E			1	Open-cut wet	Timber mat bridge
S143	26	Jackson	Pigeon Creek trib	25.5	E			1	Open-cut wet	Timber mat bridge
S144	26	Jackson	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S145	26	Jackson	Pigeon Creek trib	30.5	E			1	Open-cut wet	Timber mat bridge
S146	26	Jackson	Pigeon Creek trib	34	E			1	Open-cut wet	Timber mat bridge
S147	26	Jackson	Pigeon Creek trib	25.5	E			1	Open-cut wet	Timber mat bridge
S148	26	Jackson	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S149	26	Jackson	Pigeon Creek trib	20	E			2	Open-cut wet	Timber mat bridge
S150	26	Jackson	Pigeon Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S152	27	Jackson	Pigeon Creek trib	40	E			1	Open-cut wet	Timber mat bridge
S154	27	Jackson	Pigeon Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S155	27	Jackson	Pigeon Creek trib	50	I			5	Open-cut wet	Timber mat bridge
S156	27	Jackson	Pigeon Creek trib	46	I			2	Open-cut wet	Timber mat bridge
S159	27	Jackson	Little Raccoon Creek trib	24	I			1	Open-cut wet	Timber mat bridge
S160	27	Jackson	Little Raccoon Creek trib	28	E			1	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S161R	27	Jackson	Little Raccoon Creek trib	35	1			1	Open-cut wet	Timber mat bridge
S162	27	Jackson	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S163	28	Jackson	Pigeon Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S164	28	Jackson	Pigeon Creek trib	25	E			1	Open-cut wet	Timber mat bridge
S165	28	Jackson	Pigeon Creek trib	39	I			2	Open-cut wet	Timber mat bridge
S167	28	Jackson	Pigeon Creek trib	30	I			1	Open-cut wet	Timber mat bridge
S169	28	Jackson	Pigeon Creek trib	27	I			1	Open-cut wet	Timber mat bridge
S170	28	Jackson	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S171	28	Jackson	Pigeon Creek trib	35.5	I			3	Open-cut wet	Timber mat bridge
S172	28	Jackson	Pigeon Creek trib	30	I			14	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S173	28	Jackson	Pigeon Creek trib	40	I			3	Open-cut wet	Timber mat bridge
S174	28	Vinton	Pigeon Creek trib	30	E	no impacts		1	Not crossed by pipe	Timber mat bridge
S176	29	Vinton	Pigeon Creek trib	27	I			3	Open-cut wet	Timber mat bridge
S177	29	Vinton	Pigeon Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S178	29	Vinton	Pigeon Creek trib	25	E			2	Open-cut wet	Timber mat bridge
S180	29	Vinton	Pigeon Creek trib	36	I			1	Open-cut wet	Timber mat bridge
S181	29	Vinton	Pigeon Creek trib	28	E			1	Open-cut wet	Timber mat bridge
S182	29	Vinton	Pigeon Creek trib	24	E			1	Open-cut wet	Timber mat bridge
S183	29	Vinton	Pigeon Creek trib	27	I			1	Open-cut wet	Timber mat bridge
S184	29	Vinton	Pigeon Creek trib	29	I			1	Open-cut wet	Timber mat bridge
S185	29	Vinton	Pigeon Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S187	30	Vinton	Little Raccoon Creek trib	40	I			3	Open-cut wet	Timber mat bridge
S188	30	Vinton	Little Raccoon Creek trib	33	I			2	Open-cut wet	Timber mat bridge
S189	30	Vinton	Little Raccoon Creek trib	34	I			2	Open-cut wet	Timber mat bridge
S190	30	Vinton	Little Raccoon Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S191	30	Vinton	Little Raccoon Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S192	30	Vinton	Little Raccoon Creek trib	43	I			4	Open-cut wet	Timber mat bridge
S193	30	Vinton	Little Raccoon Creek trib	30	E			4	Open-cut wet	Timber mat bridge
S194	30	Vinton	Little Raccoon Creek trib	33	E			1	Open-cut wet	Timber mat bridge
S195	30	Vinton	Kelly Branch trib	32	E			2	Open-cut wet	Timber mat bridge
S196	30	Vinton	Kelly Branch trib	34	E			1	Open-cut wet	Timber mat bridge
S197	31	Vinton	Kelly Branch trib	41	I			3	Open-cut wet	Timber mat bridge
S198	31	Vinton	Kelly Branch trib	33	I			3	Open-cut wet	Timber mat bridge
S199	31	Vinton	Riley Run trib	34.5	I			2	Open-cut wet	Timber mat bridge
S200	31	Vinton	Riley Run trib	32	E			1	Open-cut wet	Timber mat bridge
S201	31	Vinton	Riley Run trib	32	E			1	Open-cut wet	Timber mat bridge
S202	31	Vinton	Riley Run trib	32	E			1	Open-cut wet	Timber mat bridge
S203	31	Vinton	Riley Run trib	31	I			4	Open-cut wet	Timber mat bridge
S204	31	Vinton	Riley Run	54	P	WWH	SRW, AG, IND, PCR	15	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S205	31	Vinton	Middle Fork Salt Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S206	31	Vinton	Middle Fork Salt Creek trib	29	I			1	Open-cut wet	Timber mat bridge
S207	32	Vinton	Middle Fork Salt Creek trib	58	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S208	32	Vinton	Middle Fork Salt Creek trib	35	E			2	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S209	32	Vinton	Middle Fork Salt Creek	61.8	P	WWH	SRW, AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S210	32	Vinton	Middle Fork Salt Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S211	32	Vinton	Middle Fork Salt Creek trib	38	I			2	Open-cut wet	Timber mat bridge
S212	32	Vinton	Middle Fork Salt Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S347	33	Vinton	Middle Fork Salt Creek trib	29.5	E			1	Open-cut wet	Timber mat bridge
S346	33	Vinton	Middle Fork Salt Creek trib	28	E		no impacts	1	Not crossed by pipe	Timber mat bridge
S213	33	Vinton	Middle Fork Salt Creek trib	42.5	I			3	Open-cut wet	Timber mat bridge
S214	33	Vinton	Middle Fork Salt Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S215	33	Vinton	Middle Fork Salt Creek trib	37.5	I			1	Open-cut wet	Timber mat bridge
S345	33	Vinton	Middle Fork Salt Creek trib	25	E		no impacts	1	Not crossed by pipe	Timber mat bridge
S216	33	Vinton	Middle Fork Salt Creek trib	28.3	E			1	Open-cut wet	Timber mat bridge
S217	33	Vinton	Pretty Run trib	30	I			1	Open-cut wet	Timber mat bridge
S218	34	Vinton	Pretty Run trib	34	E			1	Open-cut wet	Timber mat bridge
S219	34	Vinton	Pretty Run trib	30	E			1	Open-cut wet	Timber mat bridge
S220	34	Vinton	Pretty Run trib	31	E			1	Open-cut wet	Timber mat bridge
S221	34	Vinton	Pretty Run trib	32	E			1	Open-cut wet	Timber mat bridge
S222	34	Vinton	Pretty Run trib	36	E			1	Open-cut wet	Timber mat bridge
S223A	34	Vinton	East Fork (Queer Creek) trib	27	E			1	Open-cut wet	Timber mat bridge
S223B	34	Vinton	East Fork (Queer Creek) trib	27	E			1	Open-cut wet	Timber mat bridge
S224	34	Vinton	East Fork (Queer Creek) trib	31	E			1	Open-cut wet	Timber mat bridge
S225	34	Vinton	East Fork (Queer Creek) trib	26	E			1	Open-cut wet	Timber mat bridge
S226	34	Vinton	Goose Creek trib	33	I			1	Open-cut wet	Timber mat bridge
S227	34	Hocking	Goose Creek trib	34	E			1	Open-cut wet	Timber mat bridge
S228	34	Hocking	Goose Creek trib	33	I			1	Open-cut wet	Timber mat bridge
S229	35	Hocking	Goose Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S349	35	Hocking	Goose Creek trib	33	E			1	Open-cut wet	Timber mat bridge
S230	35	Hocking	Goose Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S231	35	Hocking	Goose Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S232	35	Hocking	Goose Creek trib	25	E			3	Open-cut wet	Timber mat bridge
S233	35	Hocking	Goose Creek trib	21	E			2	Open-cut wet	Timber mat bridge
S234	35	Hocking	East Fork Queer Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S235R	36	Hocking	East Fork Queer Creek	62	P	EVH	SRW, AG, IND, PCR	15	Open-cut dry	Not crossed by equipment
S400	36	Hocking	East Fork Queer Creek trib	31	E			5	Open-cut wet	Timber mat bridge
S236	36	Hocking	Queer Creek trib	35	I			1	Open-cut wet	Timber mat bridge
S237	36	Hocking	Queer Creek	63.5	P	EVH	SRW, AG, IND, PCR	HD	Not crossed by equipment	
S238	36	Hocking	Queer Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S239	37	Hocking	Queer Creek trib	32	E			1	Open-cut wet	Timber mat bridge
S240	37	Hocking	Queer Creek trib	27	E			2	Open-cut wet	Timber mat bridge
S241	37	Hocking	Pine Creek trib	30	E			2	Open-cut wet	Timber mat bridge
S242	37	Hocking	Pine Creek trib	28	E			2	Open-cut wet	Timber mat bridge
S243	37	Hocking	Pine Creek trib	34	I			1	Open-cut wet	Timber mat bridge
S402	37	Hocking	Pine Creek trib	32	E			1	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S244	37	Hocking	Pine Creek	71	P	WWH	SRW, AG, IND, PCR		HDD	Timber mat bridge/box culvert
S245	37	Hocking	Pine Creek trib	30.5	I			1	Open-cut wet	Timber mat bridge
S262	37	Hocking	Pine Creek trib	29	E			1	Open-cut wet	Timber mat bridge
S246	38	Hocking	Pine Creek trib	29	I			1	Open-cut wet	Timber mat bridge
S247	38	Hocking	Pine Creek trib	28	E			1	Open-cut wet	Timber mat bridge
S259	38	Hocking	Little Rocky Branch trib	30	E			1	Open-cut wet	Timber mat bridge
S248	38	Hocking	Little Rocky Branch trib	32	E			1	Open-cut wet	Timber mat bridge
S249	38	Hocking	Little Rocky Branch trib	26	E			1	Open-cut wet	Timber mat bridge
S250	38	Hocking	Little Rocky Branch trib	34.5	I			3	Open-cut wet	Timber mat bridge
S605	38	Hocking	Little Rocky Branch trib	28.5	E			10	Open-cut wet	Timber mat bridge
S604	39	Hocking	Laurel Run trib	38	E			10	Open-cut wet	Timber mat bridge
S253	39	Hocking	Laurel Run trib	28.5	I			1	Open-cut wet	Timber mat bridge
S250	39	Hocking	Laurel Run trib	22	E			1	Open-cut wet	Timber mat bridge
S254	39	Hocking	Laurel Run trib	33	I			1	Open-cut wet	Timber mat bridge
S255	39	Hocking	Laurel Run trib	32	I			1	Open-cut wet	Timber mat bridge
S256	39	Hocking	Laurel Run trib	32	E			1	Open-cut wet	Timber mat bridge
S257	39	Hocking	Laurel Run trib	29	E			1	Open-cut wet	Timber mat bridge
S257	39	Hocking	Laurel Run trib	29	E		no impacts	1	Not crossed by pipe	Timber mat bridge
S258	39	Hocking	Laurel Run trib	19.5	E			1	Open-cut wet	Timber mat bridge
S259	39	Hocking	Laurel Run	56.8	P	EWH	SRW, AG, IND, PCR	3	Open-cut wet	Timber mat bridge
S356	39	Hocking	Laurel Run trib	25.5	E			1	Open-cut wet	Timber mat bridge
S260	39	Hocking	East Branch (Buck Run) trib	34	I			1	Open-cut wet	Timber mat bridge
S261	39	Hocking	East Branch (Buck Run) trib	31	E			1	Open-cut wet	Timber mat bridge
S262	40	Hocking	East Branch (Buck Run) trib	35	E			1	Open-cut wet	Timber mat bridge
S263	40	Hocking	East Branch (Buck Run) trib	33	E			1	Open-cut wet	Timber mat bridge
S403	40	Hocking	East Branch (Buck Run) trib	32	E			1	Open-cut wet	Timber mat bridge
S264	40	Hocking	East Branch (Buck Run) trib	41	I			7	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S265	40	Hocking	East Branch (Buck Run) trib	33	E			1	Open-cut wet	Timber mat bridge
S266	40	Hocking	East Branch (Buck Run) trib	35	E			1	Open-cut wet	Timber mat bridge
S267	40	Hocking	East Branch (Buck Run) trib	32	E			2	Open-cut wet	Timber mat bridge
S268	40	Hocking	East Branch (Buck Run) trib	34	E			1	Open-cut wet	Timber mat bridge
S270	41	Hocking	Buck Run	43	P			7	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S272	41	Hocking	Hocking River trib	46	I			3	Open-cut wet	Timber mat bridge
S273	42	Hocking	Clear Creek	74.5	P	WWH	AG, IND, PCR	HDD	Timber mat bridge/box culvert	
S274	42	Hocking	Clear Creek trib	45.5	I			3	Open-cut wet	Timber mat bridge
S275	42	Hocking	Clear Creek trib	27	E			1	Open-cut wet	Timber mat bridge
S360	42	Hocking	Clear Creek trib	37.5	E			1	Open-cut wet	Timber mat bridge
S361	42	Hocking	Clear Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S600	42	Hocking	Clear Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S363	42	Hocking	Clear Creek trib	32.5	E			1	Open-cut wet	Timber mat bridge
S364	42	Hocking	Clear Creek trib	38.5	E			1	Open-cut wet	Timber mat bridge
S277	43	Fairfield	Brandy Fork trib	26	E			2	Open-cut wet	Timber mat bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S406	43	Fairfield	Brushy Fork trib	32	E			2	Open-cut wet	Timber mat bridge
S280	43	Fairfield	Brushy Fork trib	30.5	E			1	Open-cut wet	Timber mat bridge
S281	44	Fairfield	Anney Run	55	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S416	44	Fairfield	Anney Run trib	33.5	E			1	Open-cut wet	Timber mat bridge
S282	44	Fairfield	Anney Run trib	36	I			1	Open-cut wet	Timber mat bridge
S283	44	Fairfield	Anney Run trib	31	E			1	Open-cut wet	Timber mat bridge
S511	44	Fairfield	Anney Run trib	24	I			1	Open-cut wet	Timber mat bridge
S284	44	Fairfield	Anney Run trib	29	E			1	Open-cut wet	Timber mat bridge
S285	44	Fairfield	Anney Run trib	29	E			1	Open-cut wet	Timber mat bridge
S286R	45	Fairfield	Muddy Prairie Run trib	29	I			5	Open-cut wet	Timber mat bridge
S523	45	Fairfield	Muddy Prairie Run trib	60.8	P			8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S538	45	Fairfield	Muddy Prairie Run trib	49	P			4	Open-cut wet	Timber mat bridge
S365	46	Fairfield	Muddy Prairie Run trib	27.9	E	no impacts	1	Bore with road	Timber mat bridge	
S289A	46	Fairfield	Muddy Prairie Run	53	P	WWH	AG, IND, PCR	10	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S290	46	Fairfield	Muddy Prairie Creek	24	E	WWH	AG, IND, PCR	3	Open-cut wet	Timber mat bridge
S291	47	Fairfield	Sand Run trib	20	E			1	Open-cut wet	Timber mat bridge
S292	47	Fairfield	Sand Run	26	I	WWH	AG, IND, PCR	3	Open-cut wet	Timber mat bridge
S293	47	Fairfield	Sand Run trib	24	E			5	Open-cut wet	Timber mat bridge
S294	47	Fairfield	Clear Creek	60	P	WWH	AG, IND, PCR	8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S296	47	Fairfield	Clear Creek trib	36	I			4	Open-cut wet	Timber mat bridge
S297	48	Fairfield	Little Walnut Creek trib	43	E			3	Open-cut wet	Timber mat bridge
S298	48	Fairfield	Little Walnut Creek	62	P	EWH	AG, IND, PCR	HDD	Not crossed by equipment	Rockfill & Culvert/Timber culvert
S300R	49	Pickaway	Little Walnut Creek trib	55	P			7	Open-cut wet	Timber mat bridge as appropriate
S301	50	Pickaway	Little Walnut Creek trib	33	I			4	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S302	51	Pickaway	Walnut Creek	62	P	WWH	AG, IND, PCR	HDD	Not crossed by equipment	Rockfill & Culvert/Timber culvert
S303	51	Pickaway	Walnut Creek trib	30	E			1	Open-cut wet	Timber mat bridge
S306	53	Pickaway	Scioto River trib	26	P			6	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S307	54	Pickaway	Scioto River	25	E	P	AG, IND, PCR	3	Open-cut wet	Roadway
S308	55	Pickaway	Scioto River trib	46	I			6	Open-cut wet	Timber mat bridge
S309	56	Franklin	Pham Run trib	22	I			3	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S415	56	Franklin	Pham Run trib	38	P			6	Open-cut wet	Rockfill/culvert
S312A	57	Franklin	Pham Run trib	30	E			2	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S312B	57	Franklin	Pham Run trib	35	E			2	Open-cut wet	Timber mat bridge
S312C	57	Franklin	Big Run trib	33.5	I			5	Open-cut wet	Timber mat bridge
S316	59	Franklin	Big Run trib	21.5	I			3	Open-cut wet	Timber mat bridge
S405	59	Franklin								

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
S317	60	Franklin	Big Run trib	43	P			9	Open-cut wet	Timber mat bridge
S318	60	Franklin	Big Run trib	39	I			5	Open-cut wet	Timber mat bridge
S319	60	Franklin	Big Run trib	27	I			5	Open-cut wet	Timber mat bridge
S404	60	Franklin	Dry Run	28	I	WWH	AG, IND, PCR	6	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S417C	60	Franklin	Dry Run	31	I	WWH	AG, IND, PCR	5	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
S417A	60	Franklin	Dry Run	39	I	WWH	AG, IND, PCR	8	Open-cut wet	Rockfill & Culvert/Timber mat bridge as appropriate
Streams along proposed access roads										
AR4-S1	3	Lawrence	Lick Creek trib	1			no impacts	2	Not crossed by pipe	Existing bridge
AR4-S2	3	Lawrence	Lick Creek trib		P		no impacts	10	Not crossed by pipe	Existing bridge
AR7-S1	4	Lawrence	Symmes Creek trib	28	E				Not crossed by pipe	Timber mat bridge
AR8-S1	4	Lawrence	Ice Creek		P		no impacts		Not crossed by pipe	Existing bridge
AR11-S1A	5	Lawrence	Dog Fork Creek	60	P	WWH	AG, IND, PCR	10	Not crossed by pipe	Upgrade existing low water crossing
AR11-S1B	5	Lawrence	Dog Fork Creek	60	P	WWH	no impacts	10	Not crossed by pipe	Existing bridge
AR14-S1A	8	Lawrence	Symmes Creek trib	1			no impacts	1	Not crossed by pipe	Existing concrete low water crossing
AR14-S2	8	Lawrence	Symmes Creek trib		E		no impacts	1	Not crossed by pipe	Timber mat bridge
AR14-S3	8	Lawrence	Sharps Creek	48.5	P	WWH	no impacts	1	Not crossed by pipe	Timber mat bridge
AR14-S4	8	Lawrence	Sharps Creek					8	Not crossed by pipe	Existing rock/low water crossing
AR18-S1A	10	Lawrence	Symmes Creek trib	38	P		potential impact	3	Not crossed by pipe	Timber mat or improve existing low water crossing
AR18-S1B	10	Lawrence	Symmes Creek trib	46	P		potential impact	3	Not crossed by pipe	Timber mat/rockfill/culvert
AR18-S1C	10	Lawrence	Symmes Creek trib		P		no impacts	3	Not crossed by pipe	Existing bridge
AR21-S1	12	Gallia	Buttfield Creek trib	30	I		potential impact	3	Not crossed by pipe	Existing bridge
AR-S21	14	Gallia	Sand Creek trib	25	E		no impacts	2	Not crossed by pipe	Timber mat bridge
AR27-S1	16	Gallia	Little Beaver Creek trib	1			no impacts	2	Not crossed by pipe	Existing bridge
AR29-S1	16	Gallia	Symmes Creek trib	28	I		potential impact	2	Not crossed by pipe	Timber mat or improve existing culvert
AR34B-S1	20	Jackson	Symmes Creek trib	1			no impacts	2	Not crossed by pipe	Existing bridge
AR35C-S126	20	Jackson	Symmes Creek trib		P		no impacts	10	Not crossed by pipe	Existing haul road
AR37-S342	24	Jackson	Dickenson Run trib		E		no impacts	1	Not crossed by pipe	Existing bridge
AR-S172A	28	Jackson	Pigeon Creek trib	1			no impacts	14	Not crossed by pipe	Existing improved low water crossing
AR-S172B	28	Jackson	Pigeon Creek trib	1			no impacts	14	Not crossed by pipe	Existing reached
AR-S609	32	Vinton	Middle Fork Salt Creek trib	68	P		no impacts	30	Not crossed by pipe	Existing improved low water crossing
AR-S610	32	Vinton	Middle Fork Salt Creek trib	51	E		no impacts	8	Not crossed by pipe	Existing improved low water crossing
AR-S611	31	Vinton	Middle Fork Salt Creek trib	21	E		no impacts	4	Not crossed by pipe	Existing improved low water crossing
AR31-S235	36	Hocking	East Fork Queer Creek		P		no impacts	20	Not crossed by pipe	Temporary Bridge

Table 3.3. Streams crossed by the proposed pipeline project.

Stream ID No.	Map Sheet No.	County/State	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width	Pipeline Crossing Method	Equipment Crossing Method
AR-S608	37	Hocking	Pine Creek trib	40	E	no impacts		5	Not crossed by pipe	Timber mat/rockfill&culvert
AR-S246A	38	Hocking	Pine Creek trib	1		no impacts		1	Not crossed by pipe	Existing bridge
AR-S246B	38	Hocking	Pine Creek trib	1		no impacts		1	Not crossed by pipe	Existing bridge
AR-S247	38	Hocking	Pine Creek trib	1		no impacts		4	Not crossed by pipe	Existing bridge
AR-S606	40	Hocking	East Branch (Buck Run) trib	29	I	no impacts		10	Not crossed by pipe	Existing bridge
AR-S607	40	Hocking	East Branch (Buck Run) trib	25	E	no impacts		2	Not crossed by pipe	Existing bridge
AR-S270	41	Hocking	Buck Run	43	P	no impacts		7	Not crossed by pipe	Existing bridge
AR-S527	41	Hocking	Hocking River trib	37	I	no impacts		2	Not crossed by pipe	Existing bridge
AR-S9-S274	42	Hocking	Clear Creek trib	1		no impacts		3	Not crossed by pipe	Existing bridge
AR-S9-S1	42	Hocking	Brushy Fork Creek	E		no impacts		1	Not crossed by pipe	Existing bridge
AR-S523	45	Fairfield	Muddy Prairie Run trib	43.8	P	potential impact		8	Not crossed by pipe	Timber mat/rockfill&culvert
AR-S523AL	45	Fairfield	Muddy Prairie Run trib	43.8	P	potential impact		8	Not crossed by pipe	Timber mat/rockfill&culvert
AR-S289B	46	Fairfield	Muddy Prairie Run	30	P	potential impact		10	Not crossed by pipe	Timber mat/rockfill&culvert

* Stream flows for short distance and disappears beneath road. Possibly goes into sewer at Jackson Airport.
 ** AR designation is for those crossings which occur on access roads.

Stream Flow

- P Perennial
- I Intermittent
- E Ephemerall

Estimated average channel and/or water width at time of survey. Estimated width for ephemeral streams is channel width. Estimated width for

intermittent and perennial streams is water width.

Streams of width of 15 feet or less (as measured by the width of the water as reasonably expected during the time of installation) will be crossed using the open-cut wet method.

This method will be used to cross perennial streams with a width of greater than 15 feet. Dam and pump or flume technology will be utilized.

Fishery

- | SRV | State Resource Water | WWH | Warm Water Habitat Fishery |
|-----|----------------------------|-------|--|
| AG | Agricultural | EWH | Exceptional Warm Water Habitat Fishery |
| IND | Industrial | Blank | Indicates no designated fishery use |
| PCR | Primary Contact Recreation | | |
| | | | Blank indicates no designated use. |

Stream width

Open cut wet

Open cut dry

Table 3.4. Man-made/ altered drainage features identified within the project corridor of the proposed pipeline project.

Stream ID No.	Map Sheet No.	County(OH)	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width (feet)	Pipeline Crossing Method	Equipment Crossing Method
Streams along the proposed right-of-way										
S34 ¹	5	Lawrence	Dog Fork trib	39.5	1			10	Open-cut wet	Timber mat bridge
S323	7	Lawrence	DeLoss Creek trib	24	1			1	Open-cut wet	Timber mat bridge
S325	7	Lawrence	DeLoss Creek trib	20	1			1	Open-cut wet	Timber mat bridge
S324	8	Lawrence	Symmes Creek trib	13	1			1	Open-cut wet	Timber mat bridge
S507	8	Lawrence	Shanks Creek trib	12	E			2	Open-cut wet	Timber mat bridge
S61	10	Lawrence	Symmes Creek trib	21	1			2	Open-cut wet	Timber mat bridge
S68	11	Gallia	Pigeon Creek trib	20.5	E			1	Open-cut wet	Timber mat bridge
S69	11	Gallia	Pigeon Creek trib	25.5	E			1	Open-cut wet	Timber mat bridge
S326	13	Gallia	Symmes Creek trib	12	1			6	Open-cut wet	Rockfill&culvert/timber mat bridge, as appropriate
S505	13	Gallia	Symmes Creek trib	12	1			12	Open-cut wet	Rockfill&culvert/timber mat bridge, as appropriate
S506	13	Gallia	Symmes Creek trib	12	1			15	Open-cut wet	Rockfill&culvert/timber mat bridge, as appropriate
S327	14	Gallia	Symmes Creek trib	15	1			1	Open-cut wet	Timber mat bridge
S328	14	Gallia	Symmes Creek trib	13	E			1	Open-cut wet	Timber mat bridge
S115	19	Jackson	Symmes Creek trib	25.5	E			1	Open-cut wet	Timber mat bridge
S334	21	Jackson	Symmes Creek trib	14	E			2	Open-cut wet	Timber mat bridge
S332	22	Jackson	Symmes Creek trib	18	E			2	Open-cut wet	Timber mat bridge
S333	22	Jackson	Symmes Creek trib	16	E			2	Open-cut wet	Timber mat bridge
S337	23	Jackson	Sand Run trib	15	E			1	Open-cut wet	Timber mat bridge
S601	27	Jackson	Pigeon Creek trib	13.5	E			10	Open-cut wet	Timber mat bridge
S320	28	Jackson	Pigeon Creek trib	18.5	E		no impacts		Bore with railroad	Timber mat bridge
S524	45	Fairfield	Muddy Prairie Run trib	17	E			1	Open-cut wet	Timber mat bridge
S525	45	Fairfield	Muddy Prairie Run trib	19.5	1			1	Open-cut wet	Timber mat bridge
S526	45	Fairfield	Muddy Prairie Run trib	16.5	I				Bore with railroad	Timber mat bridge
S408	46	Fairfield	Muddy Prairie Creek trib	23	E			3	Open-cut wet	Timber mat bridge
S295	47	Fairfield	Clear Creek trib	14.5	E			2	Open-cut wet	Timber mat bridge
S522	49	Pickaway	Little Walnut Creek trib	25.8	I			1	Open-cut wet	Timber mat bridge
S521	51	Pickaway	Little Walnut Creek trib	14	E			2	Open-cut wet	Timber mat bridge
S304R	52	Pickaway	Mud Run trib	18	E	WWH	AG, IND, PCR	1	Open-cut wet	Timber mat bridge
S409R	52	Pickaway	Mud Run trib	17.5	I		no impacts		Bore with railroad	Timber mat bridge

Table 3.4. Man-made/ altered drainage features identified within the project corridor of the proposed pipeline project.

Stream ID No.	Map Sheet No.	County(OH)	Name	QHEI Score	Stream Flow	Fishery	Designated Use	Stream Width (feet)	Pipeline Crossing Method	Equipment Crossing Method
Streams along proposed access roads										
S305R	53	Pickaway	Scioto River trib	36	P			8	Open-cut wet	Rockfill&culvert/timber mat bridge, as appropriate
S412	53	Pickaway	Scioto River trib	20	E			1	Open-cut wet	Timber mat bridge
S413	55	Pickaway	Plum Run trib	18	E			5	Open-cut wet	Timber mat bridge
S310	56	Franklin	Plum Run trib	29	E			1	Open-cut wet	Timber mat bridge
S311	56	Franklin	Plum Run trib	25	E			1	Open-cut wet	Timber mat bridge
S414	56	Franklin	Plum Run trib	18	E			1	Open-cut wet	Timber mat bridge
S313	57	Franklin	Plum Run trib	27	E			1	Open-cut wet	Timber mat bridge
AR21-S2	12	Gallia	Buffalo Creek trib	12	E					Timber mat bridge
AR29-S4	16	Gallia	Symmes Creek trib	22.5	E					Timber mat bridge
AR29-S3	16	Gallia	Symmes Creek trib	18.5	E					Timber mat bridge
AR29-S2	16	Gallia	Symmes Creek trib	15	E					Timber mat bridge
ARTIM-S1	53	Pickaway	Scioto River trib	19	P					Timber mat bridge
ARTIM-S2	53	Pickaway	Scioto River trib	19	P					Timber mat bridge

** AR designation is for those crossings which occur on access roads.

1. Stream 34 has been altered through bank stabilization resulting in the addition of substantial rip-rap material along both banks at the proposed crossing site.

Stream Flow
P Perennial
I Intermittent
E Epphemeral

Fishery

WWH Warm Water Habitat Fishery
EWH Exceptional Warm Water Habitat Fishery

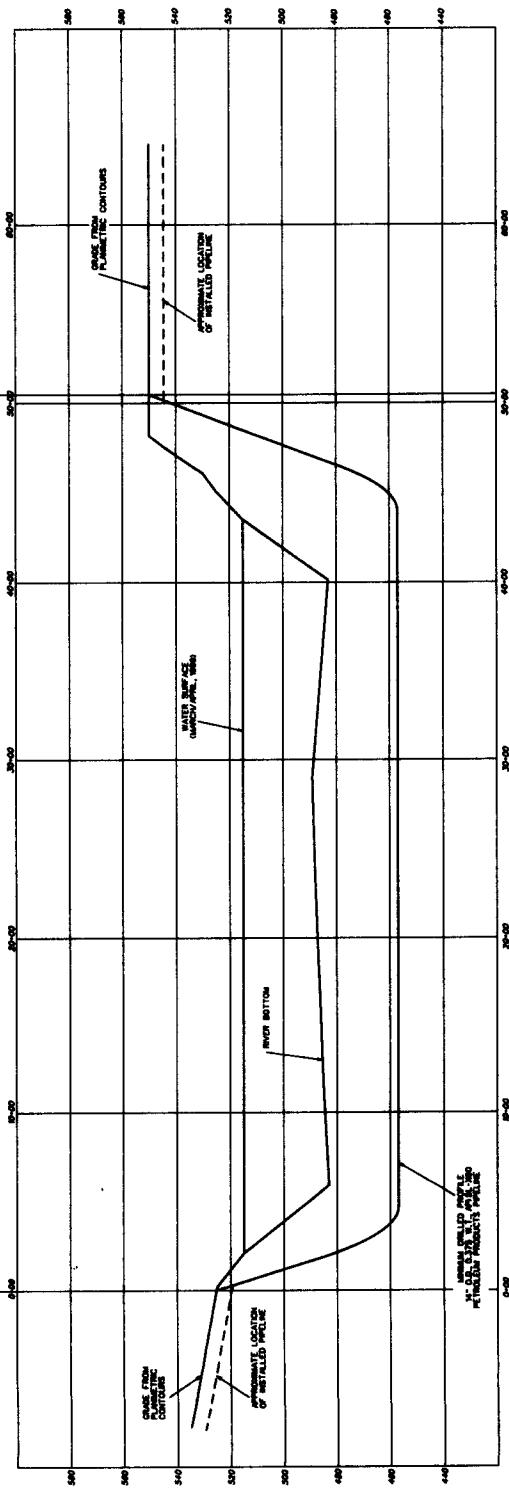
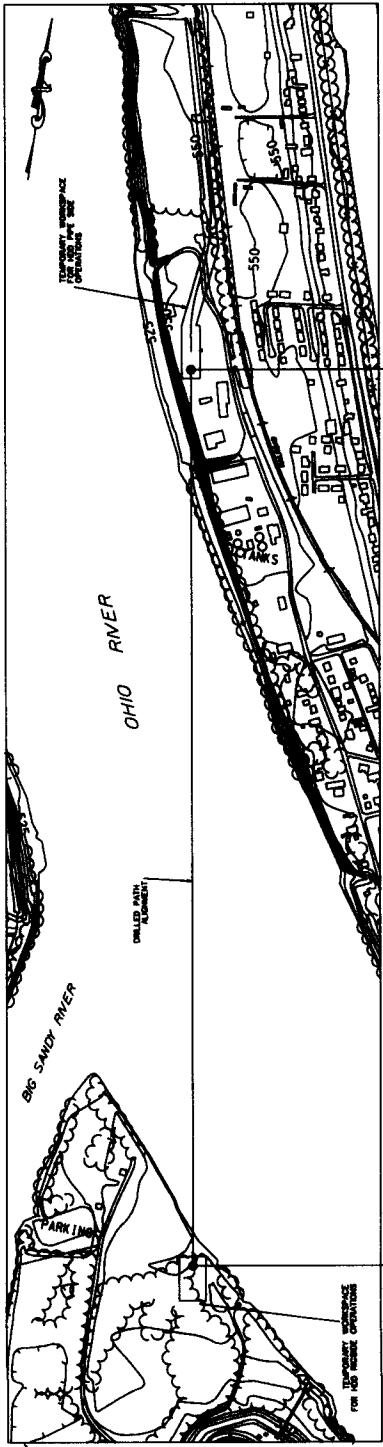
Blank indicates no designated fishery use.

Designated Use	SRW State Resource Water	AG Agricultural	IND Industrial	PCR Primary Contact Recreation
				Blank indicates no designated use.

Estimated average channel and/or water width at time of survey. Estimated width for ephemeral streams is channel width. Estimated width for intermittent and perennial streams is water width.

Streams of width of 15 feet or less (as measured by the width of the water reasonably expected during the time of installation) will be crossed using the open-cut wet method.

This method will be used to cross perennial streams with a stream width of greater than 15 feet. Dam and pump or flume technology will be utilized.
Stream width.
Open cut wet.
Open cut dry.



**Marathon Ashland
Pipe Line LLC**

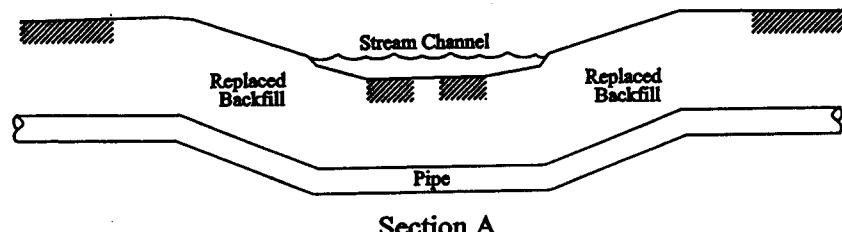
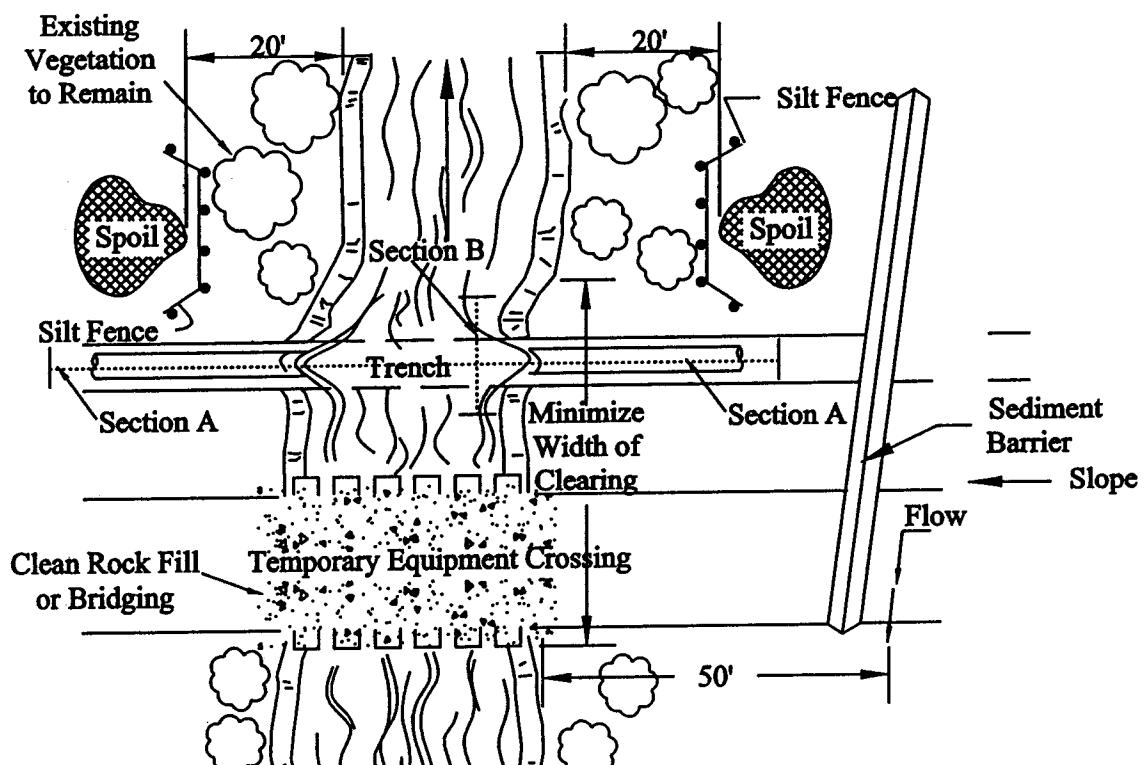
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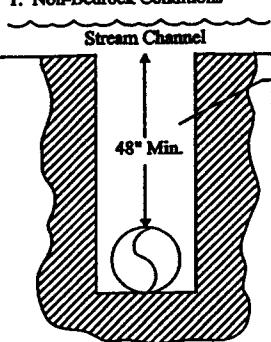
PLAN AND PROFILE
ORPL 14-INCH PIPELINE
OHIO TO RIVER CROSSING
BY HORIZONTAL DIRECTIONAL DRILLING
LAWRENCE COUNTY, OHIO AND WAYNE COUNTY, WEST VIRGINIA

- 1. DRILLED PATH PLATEAU IS 15' FEET BY ANTECEDENT FOR THE DRILLED PATH.
- 2. DRILLED PATH COORDINATES NEED TO CENTER LINE OF PIPE.
- 3. ELEVATIONS ARE IN FEET REFERENCED TO海平面.
- ④ DRILLED PATH ENTRY / EXIT POINT

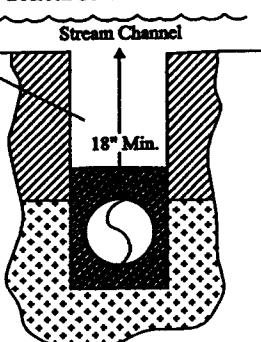
DATE	REVIEWED	BY	APPROVED BY	DATE	SCALE	JOB NO.	AS SHOWN	DRAWING NO.	FILE NO.
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1. Non-Bedrock Conditions



2. Bedrock Conditions

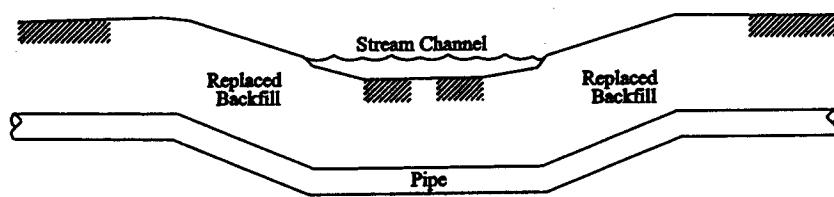
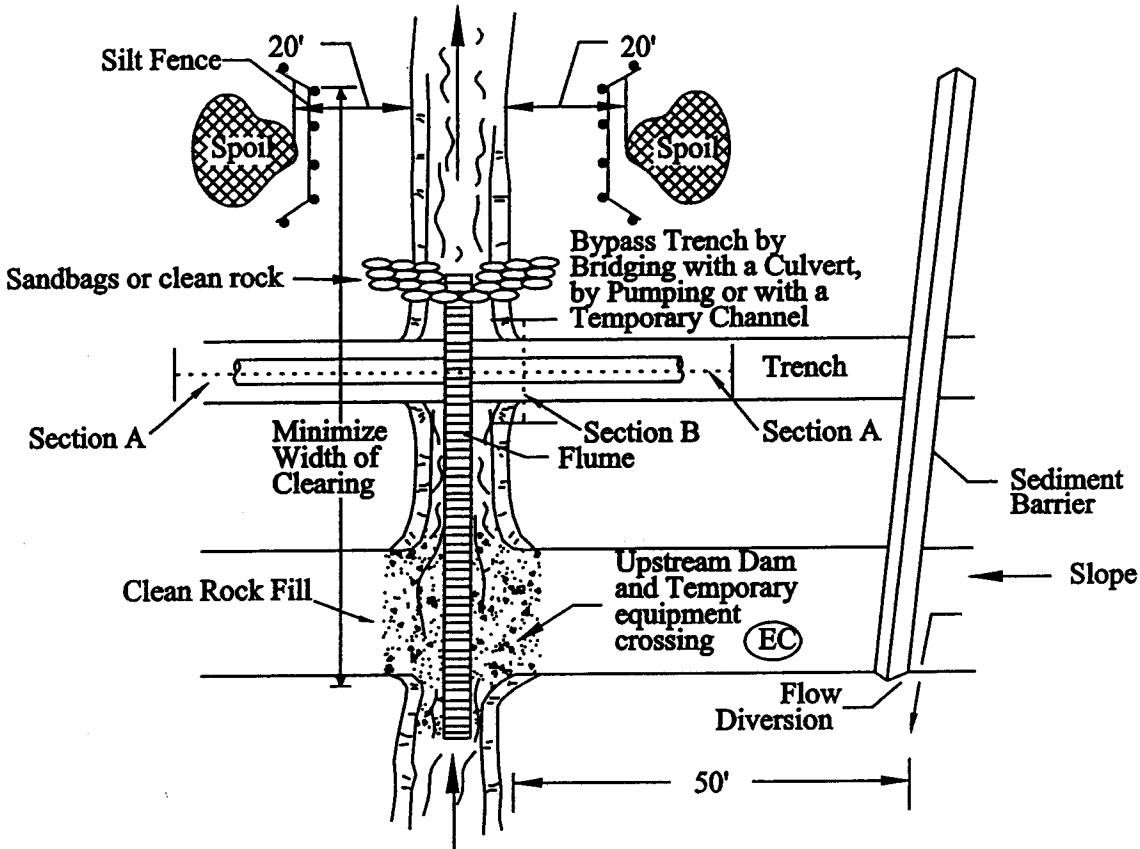


Subsoil

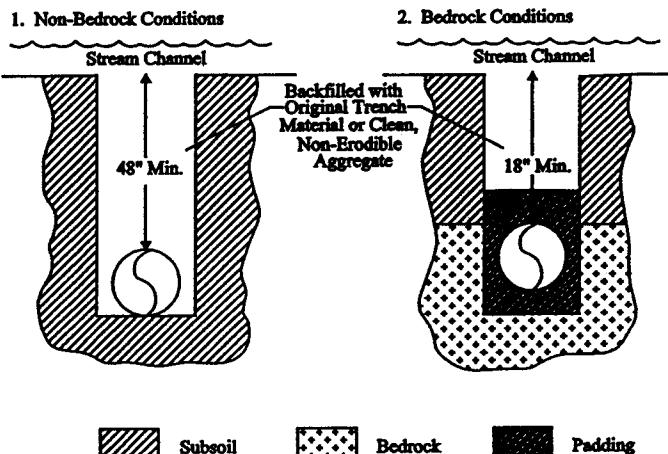
Bedrock

Padding

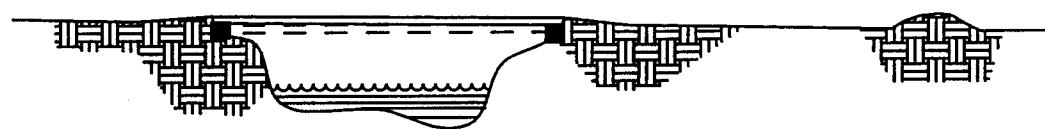
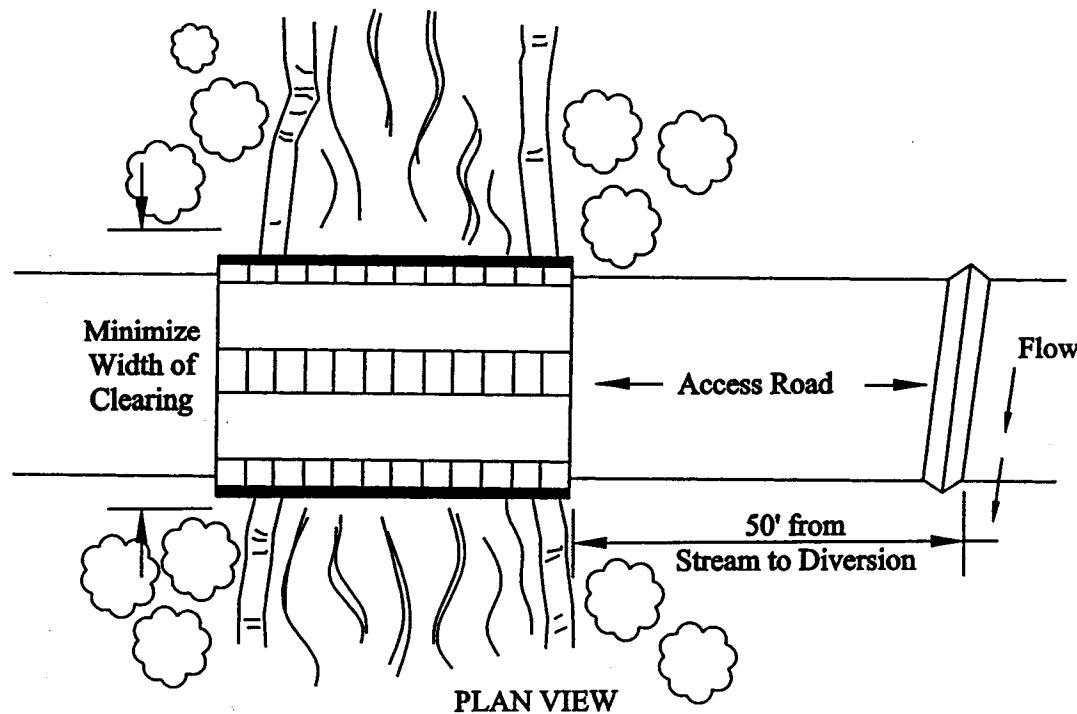
Section B



Section A

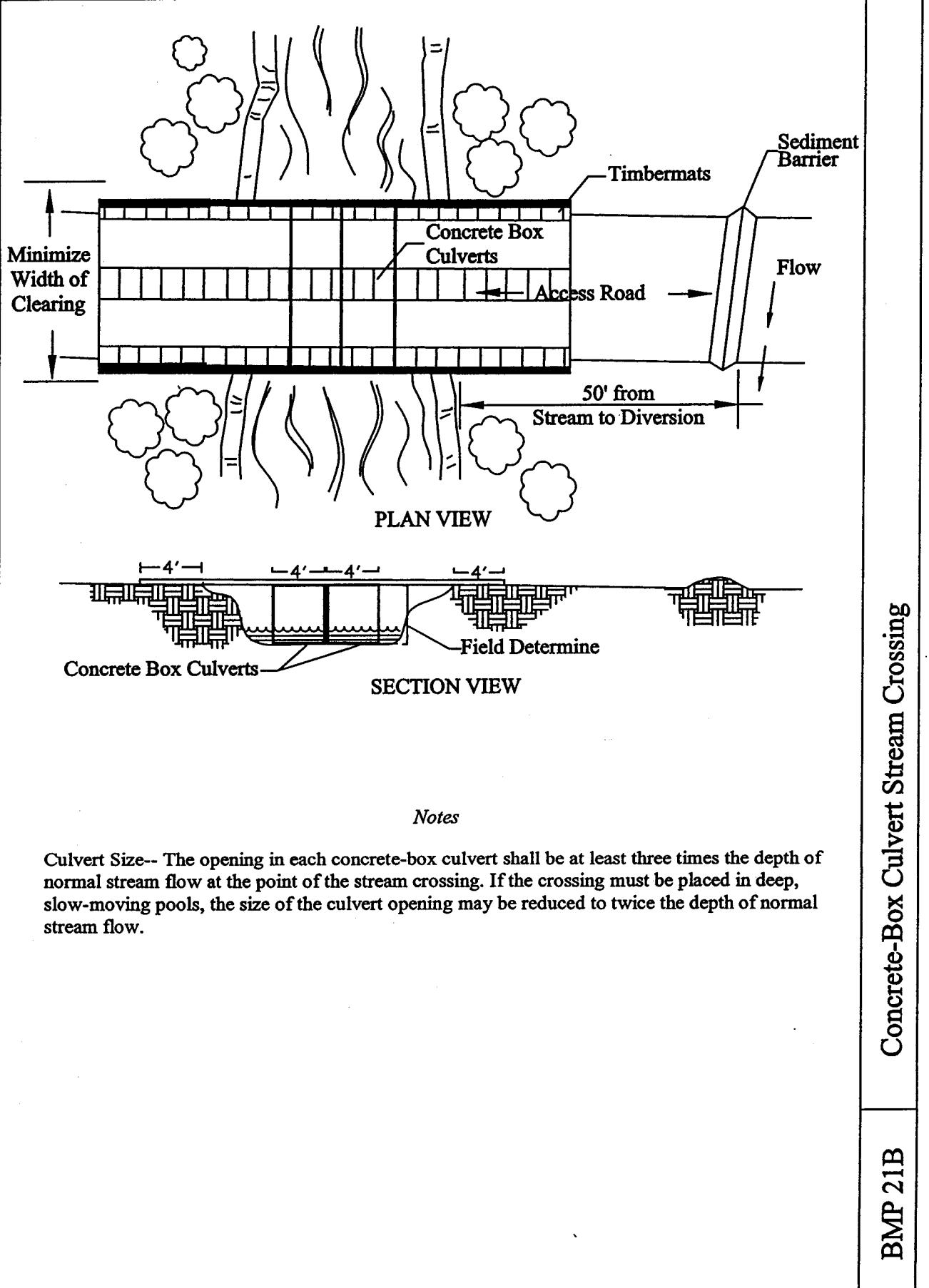


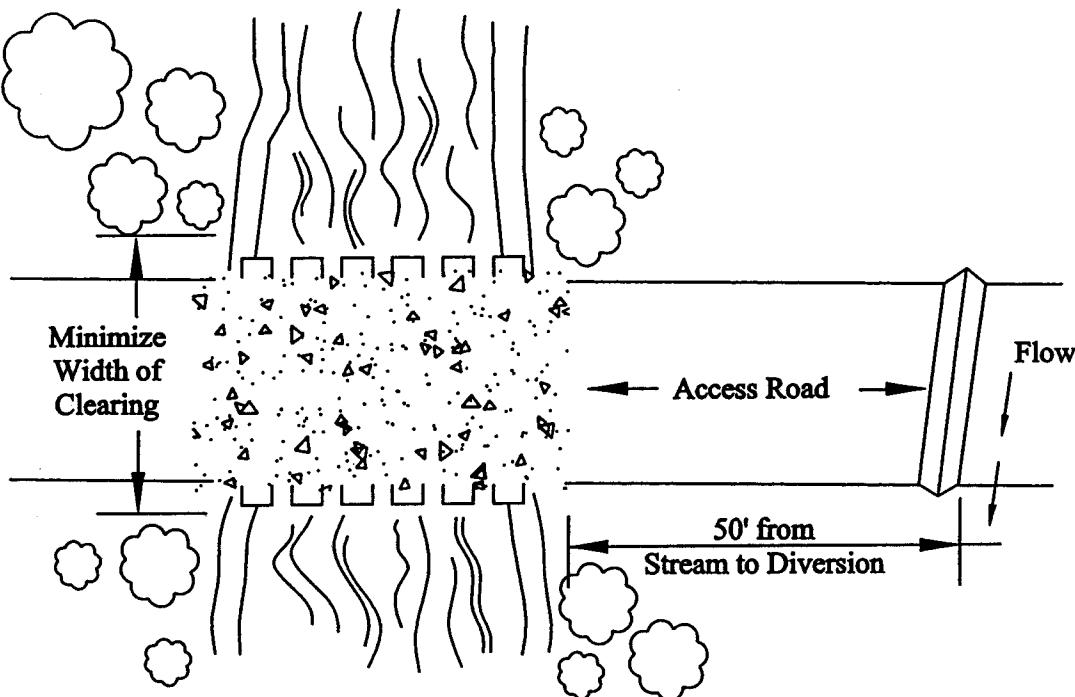
Section B



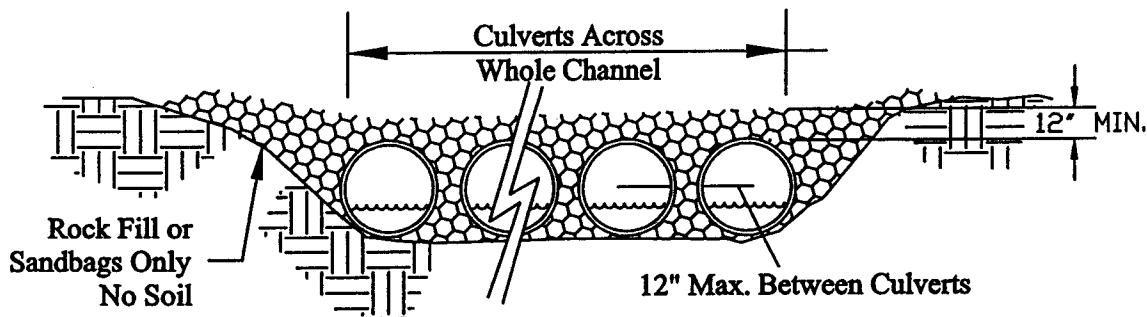
Notes

Bridges shall be constructed to span the entire channel. If the channel width exceeds 8 ft. as measured from the top-of bank, then a footing, pier or bridge support may be constructed within the waterway. No more than one additional footing, pier or bridge support shall be permitted for each additional 8-ft. width of the channel. However, no footing, pier or bridge support will be permitted within the channel for waterways less than 8 ft. wide.





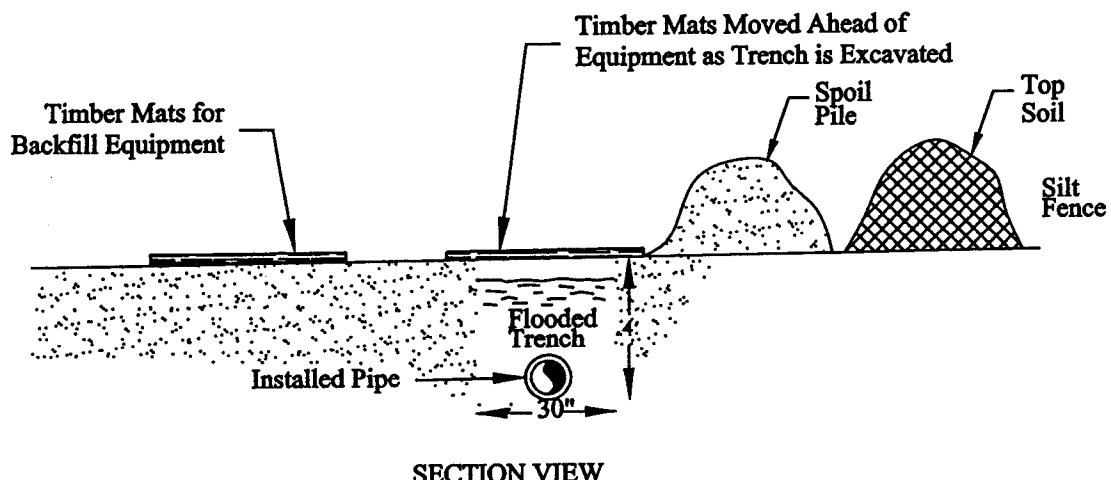
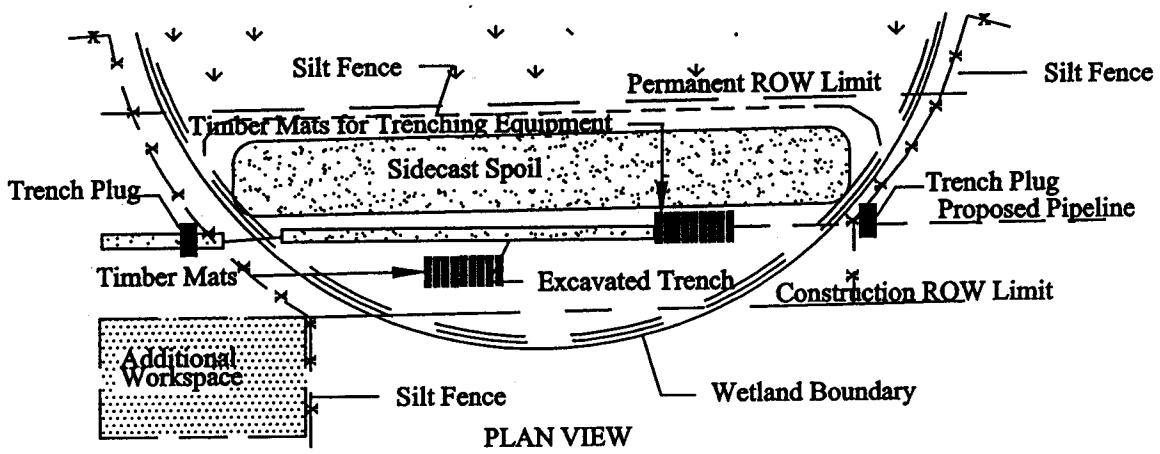
PLAN VIEW

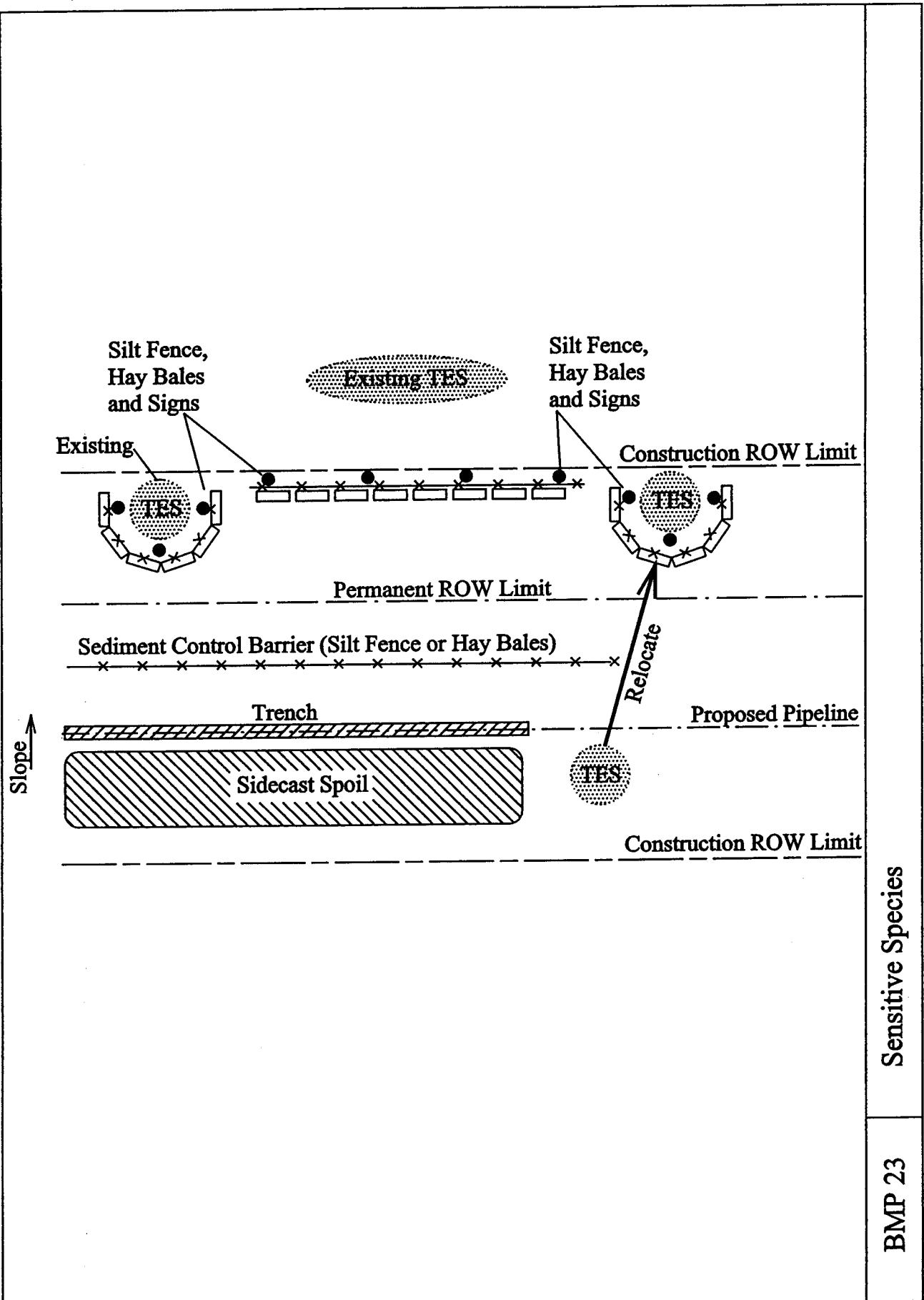


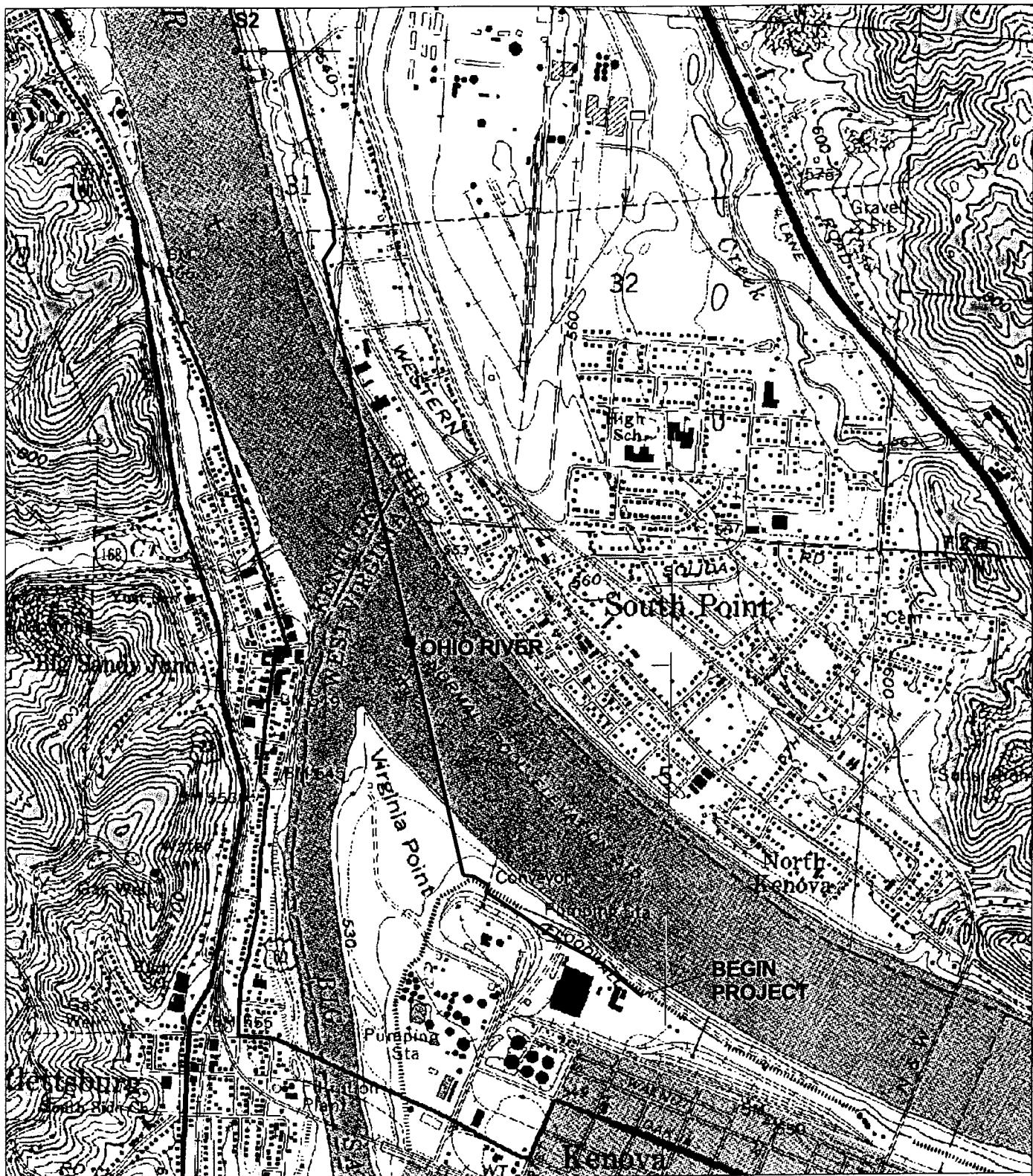
SECTION VIEW

Notes

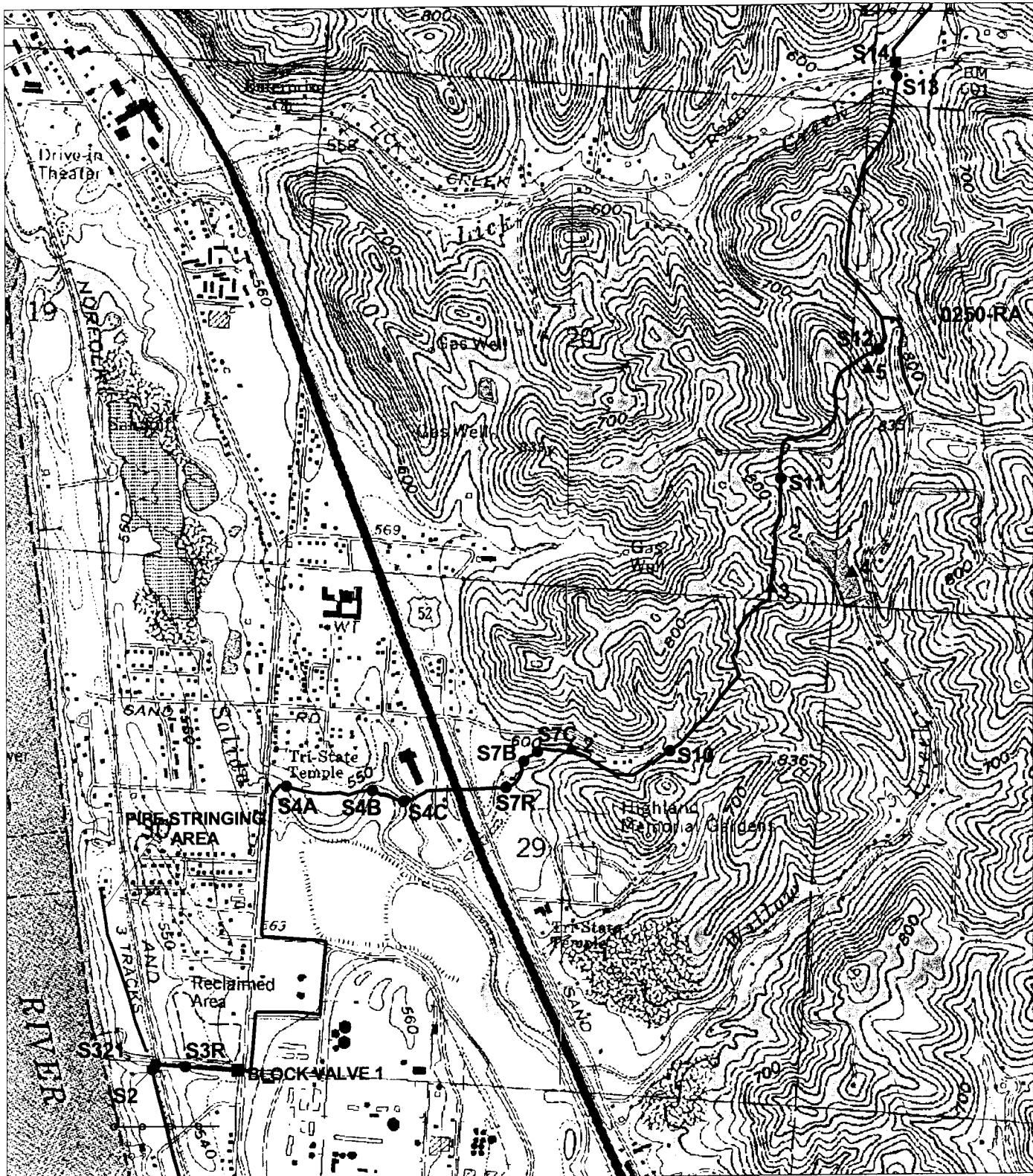
1. Culvert Size--Culvert diameter shall be at least three times the depth of normal stream flow at the point of the stream crossing. If the crossing must be placed in deep, slow-moving pools, the culvert diameter may be reduced to twice the depth of normal stream flow. The minimum size culvert that may be used is 18 in.
2. Number of Culverts--There shall be sufficient number of culverts to completely cross the stream channel from streambank to streambank with no more than a 1 2-in. space between each one.





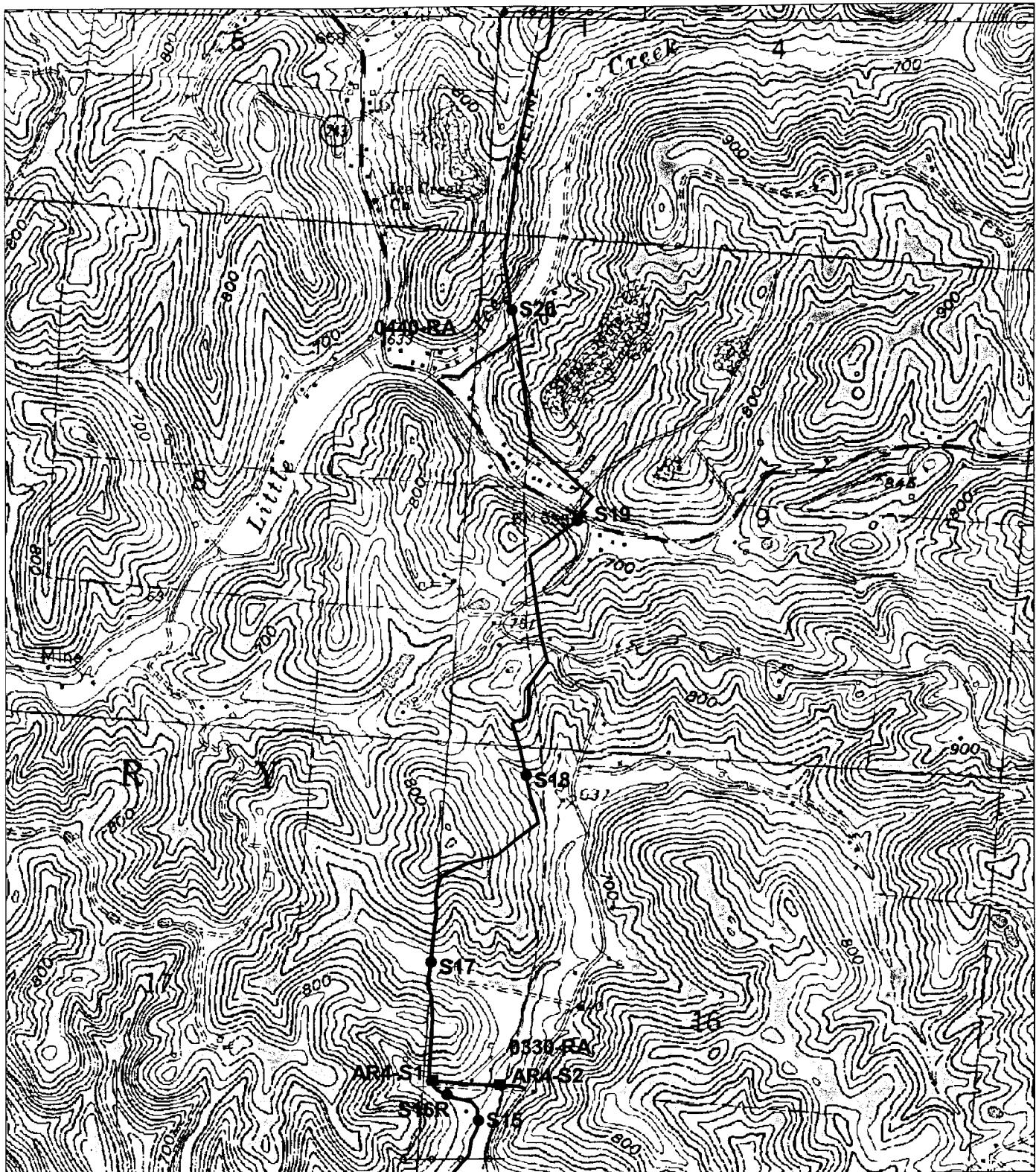


BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
W N	Feet	Sheet 1	July 27, 2001	
E S	750 0 750 1500	Sheet Match Line		
Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map - Catlettsburg, KY-OH-WV			



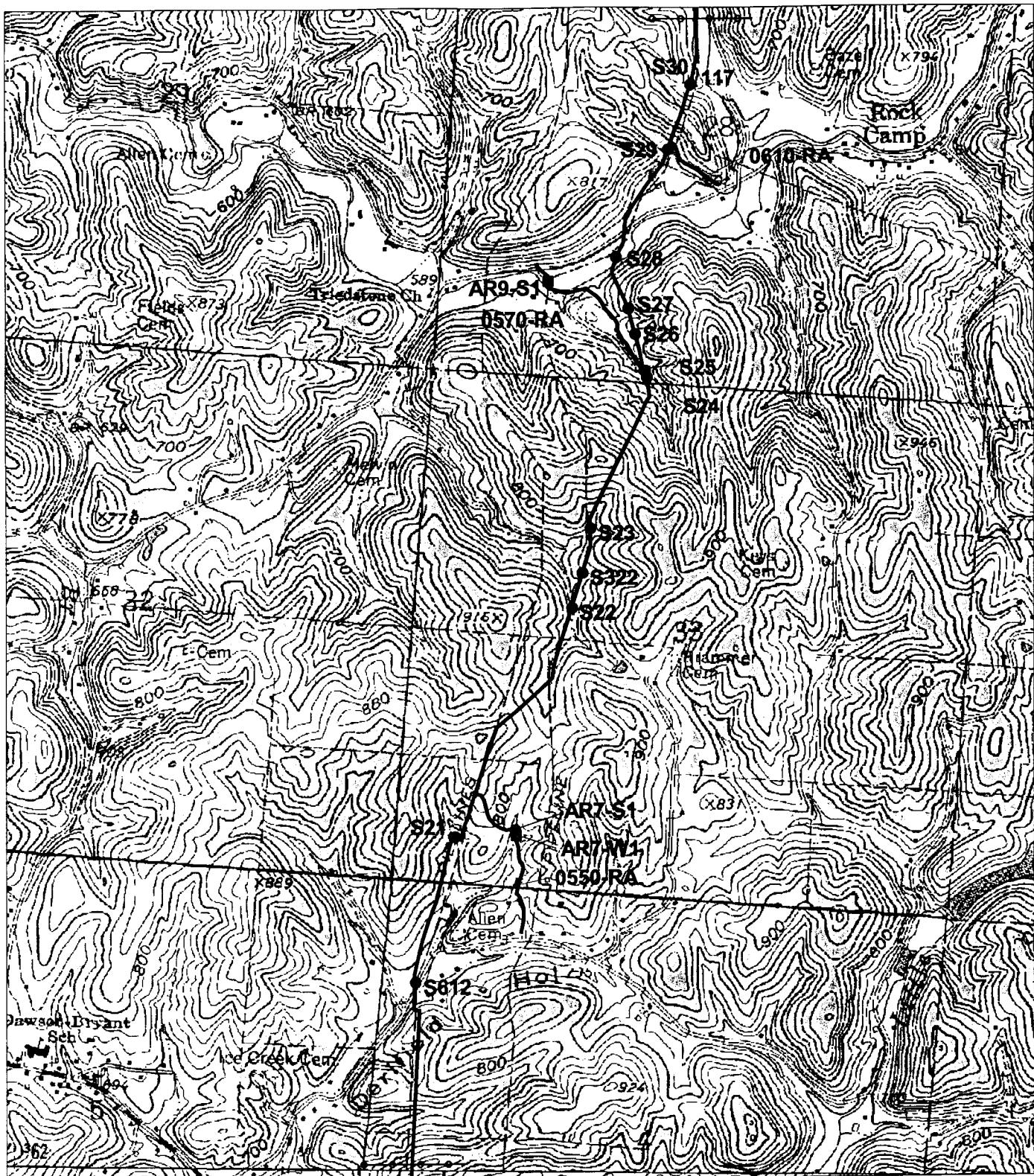
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
	Feet			
	750 0 750 1500			
		Sheet 2		
		Sheet Match Line		
			July 10, 2001	
		Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map- Callettsburg, KY-OH-WV	



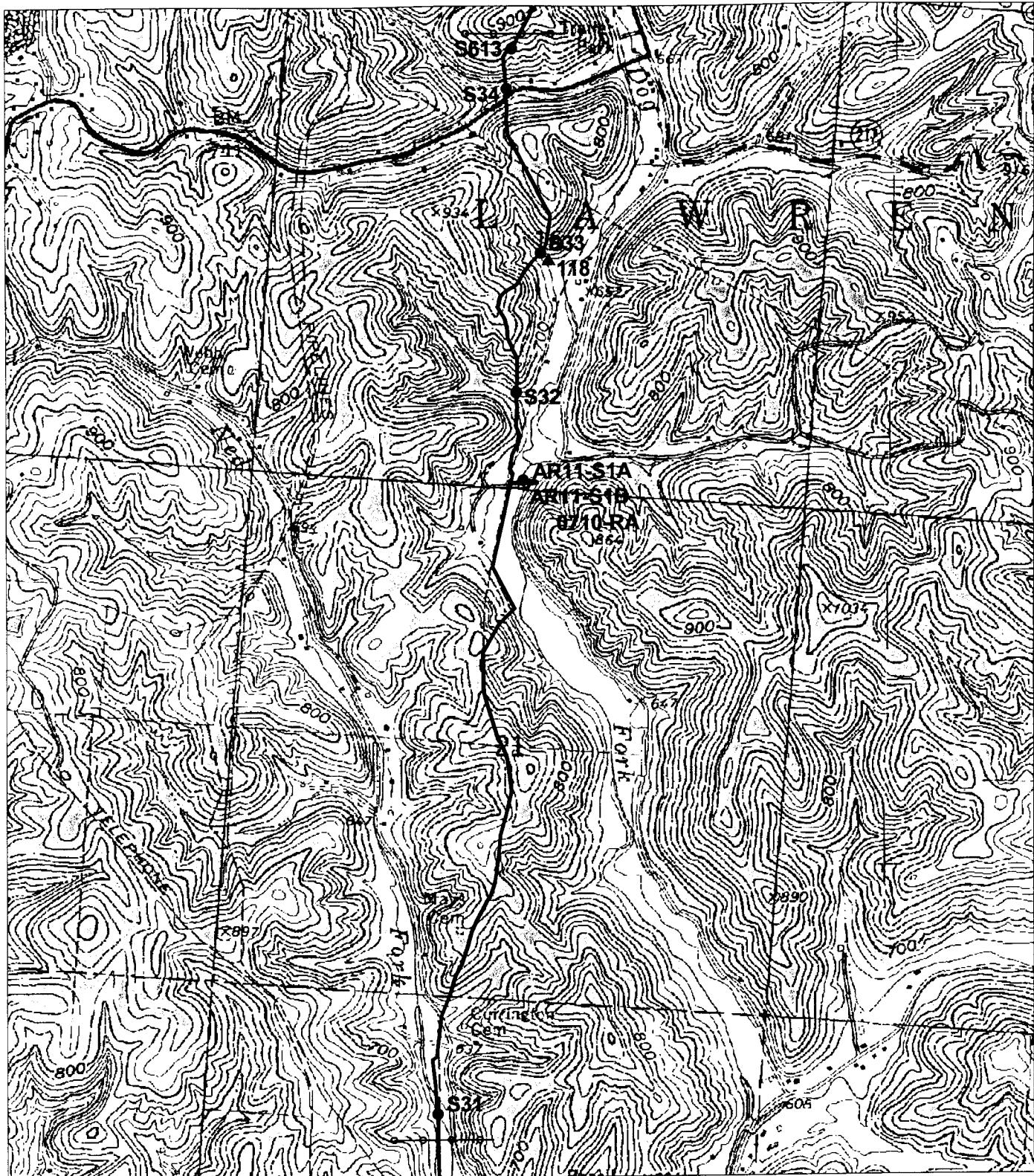
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
	 Feet 750 0 750 1500		 Sheet 3 Sheet Match Line	
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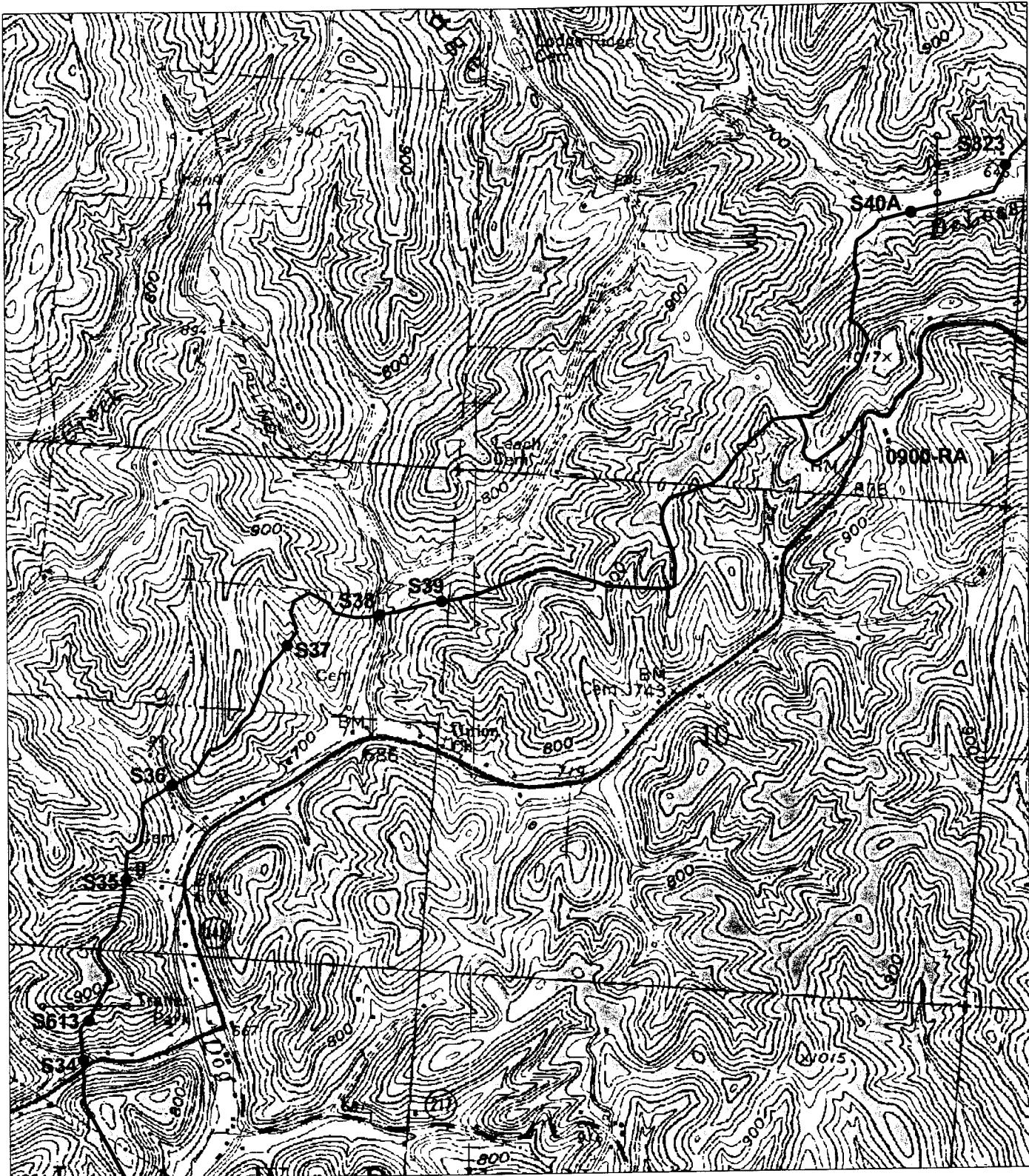
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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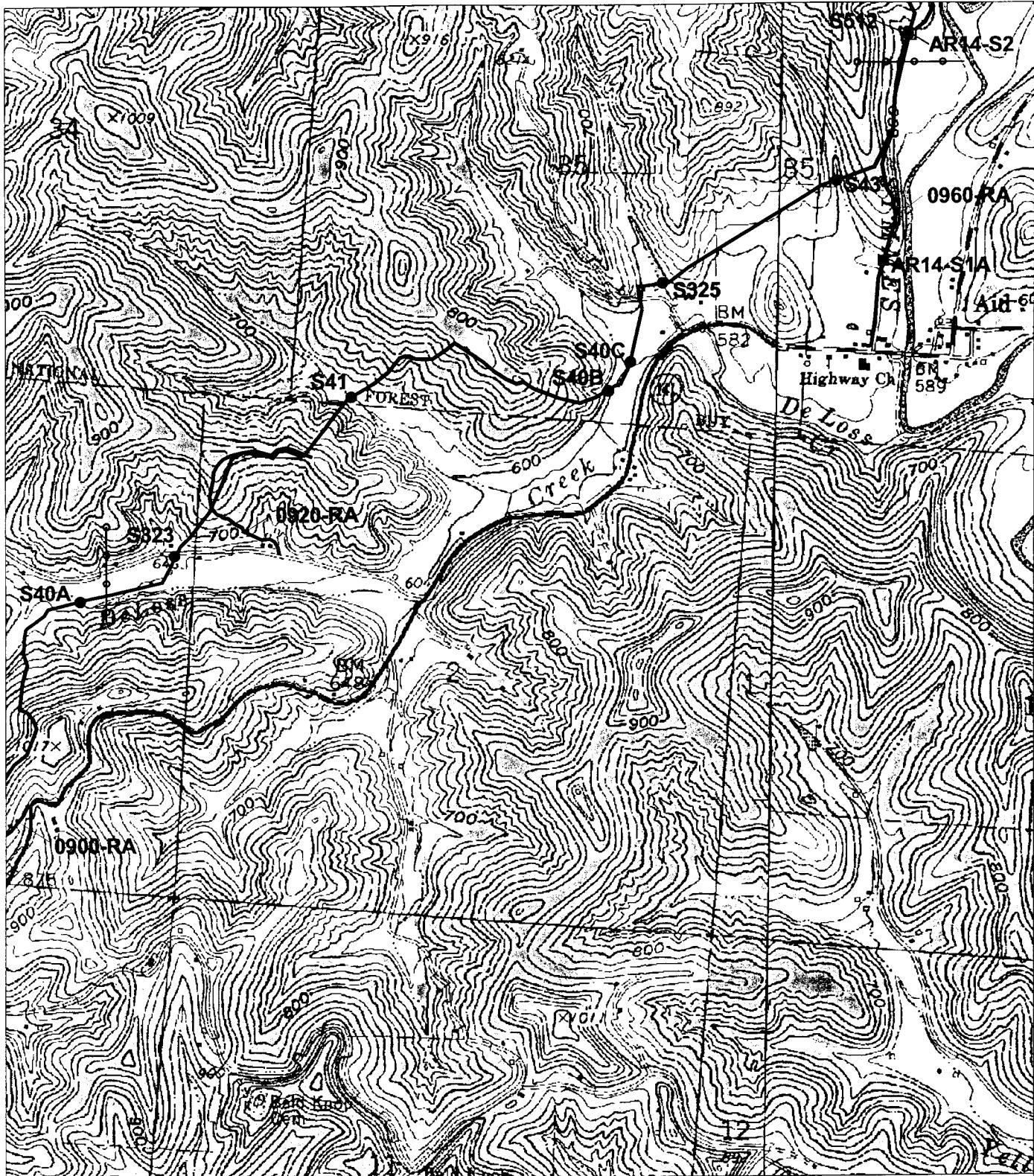
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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	Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map - Kitts Hill, OH		



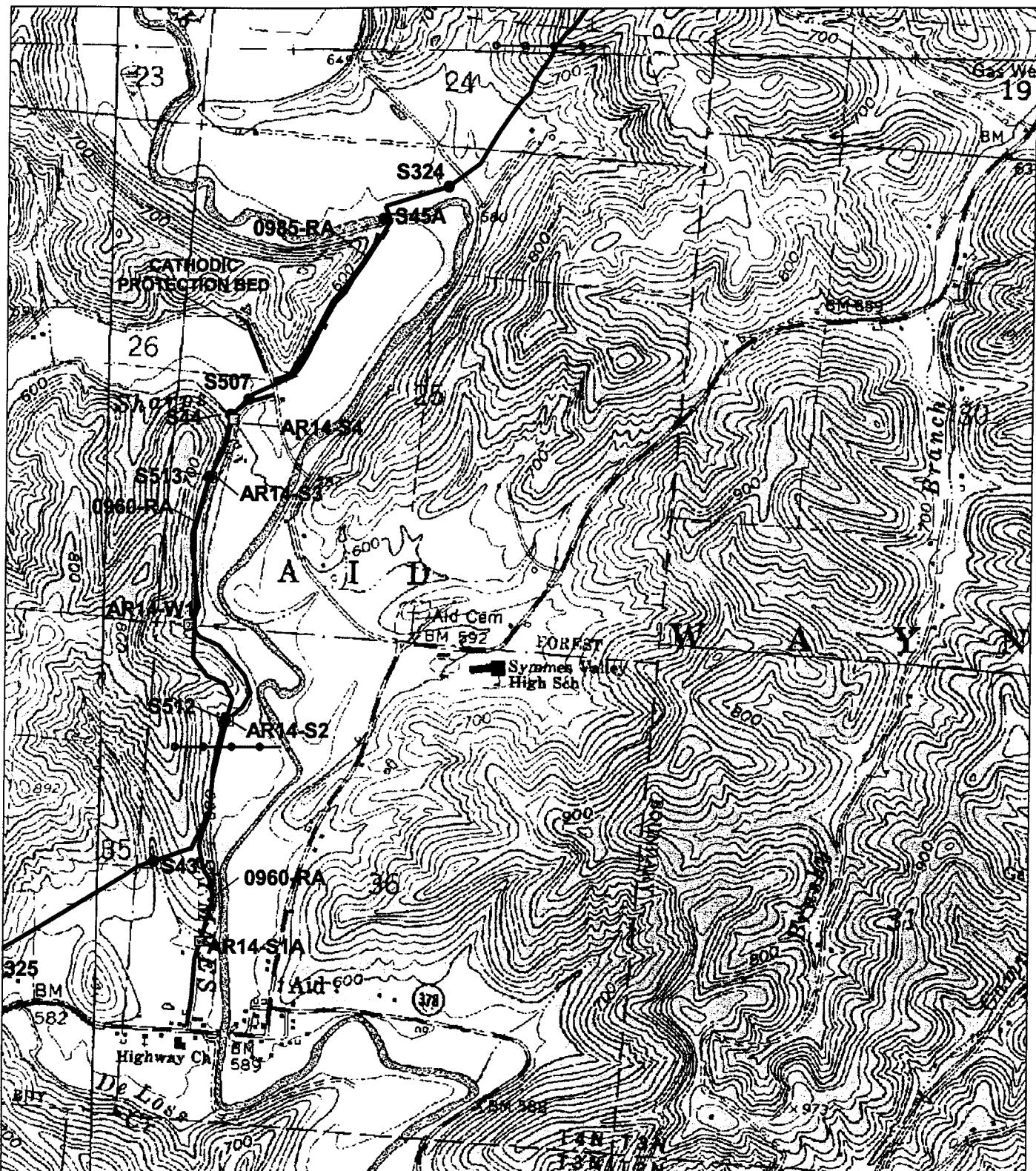
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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N				
E				
S				
Project No. 1013.002		Sheet 6 Sheet Match Line	August 23, 2001	
Base Map: USGS 7.5 Minute Topographic Map - Kitts Hill, OH				



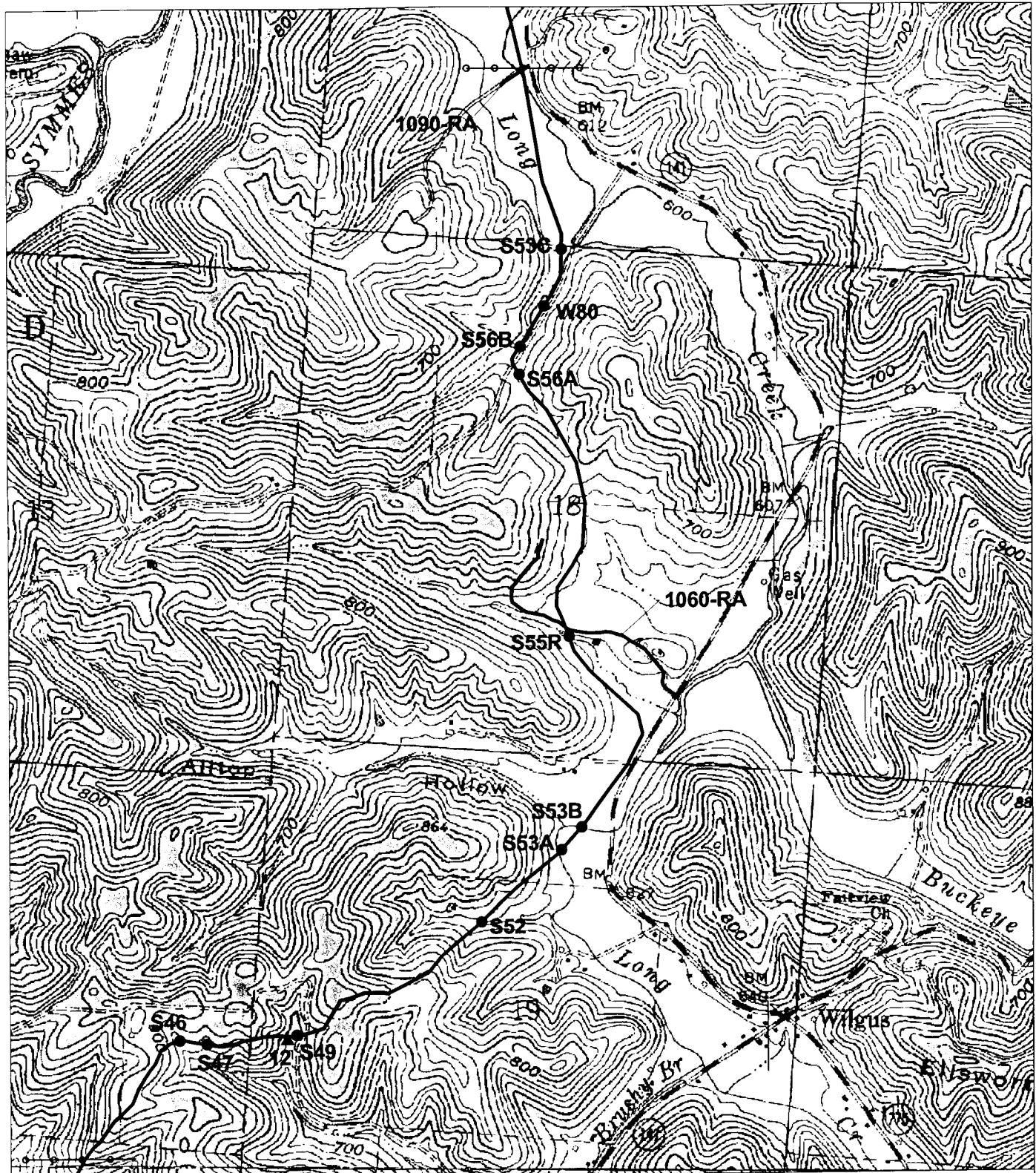
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	● Crossings with Potential Impacts	■ Crossings with Impacts Avoided	▲ Protected Species Occurrence
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Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Maps- Kitts Hill, OH and Aid, OH			



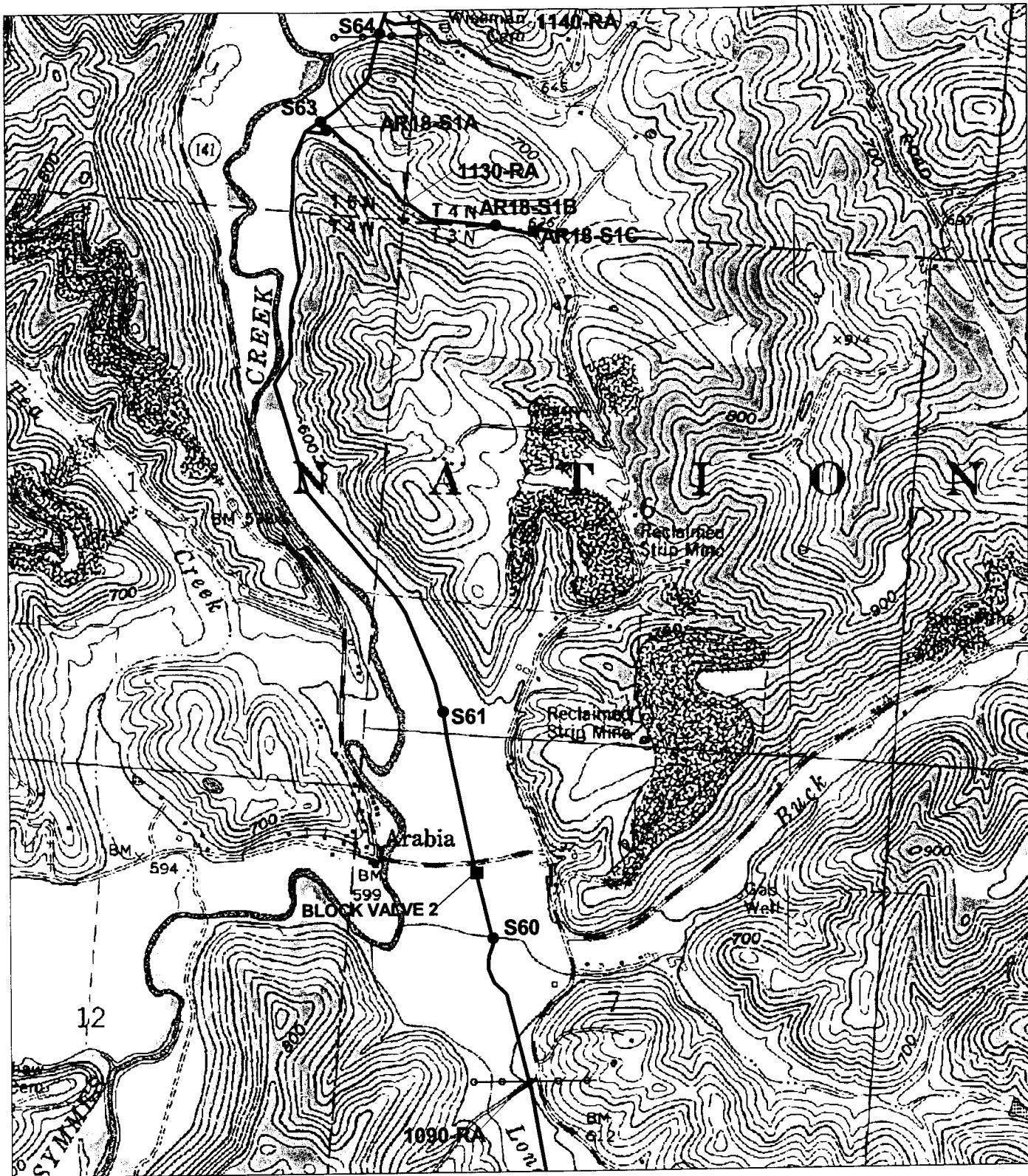
Proposed Ohio River Pipeline Project Alignment.

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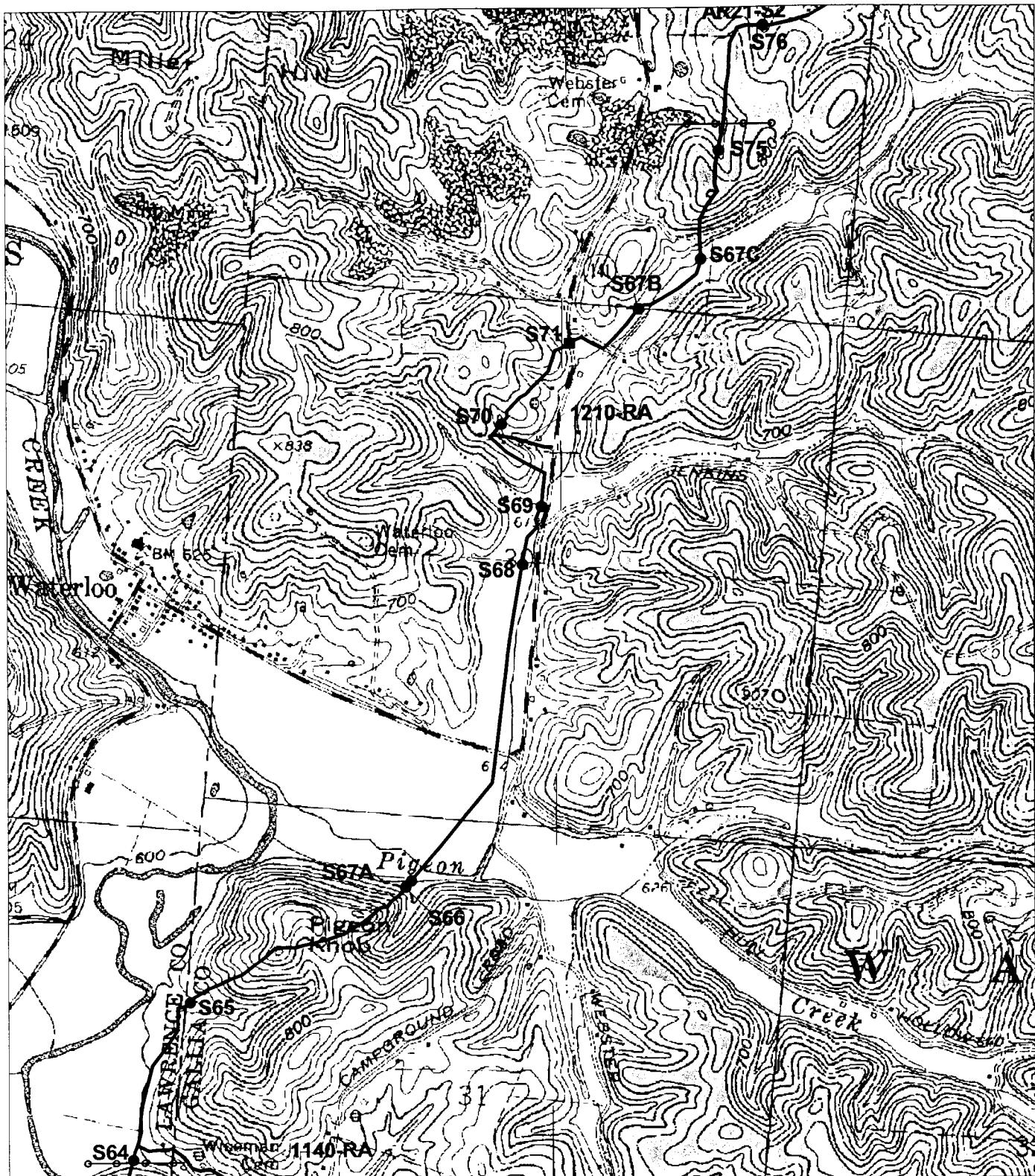
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map - Waterloo, OH			



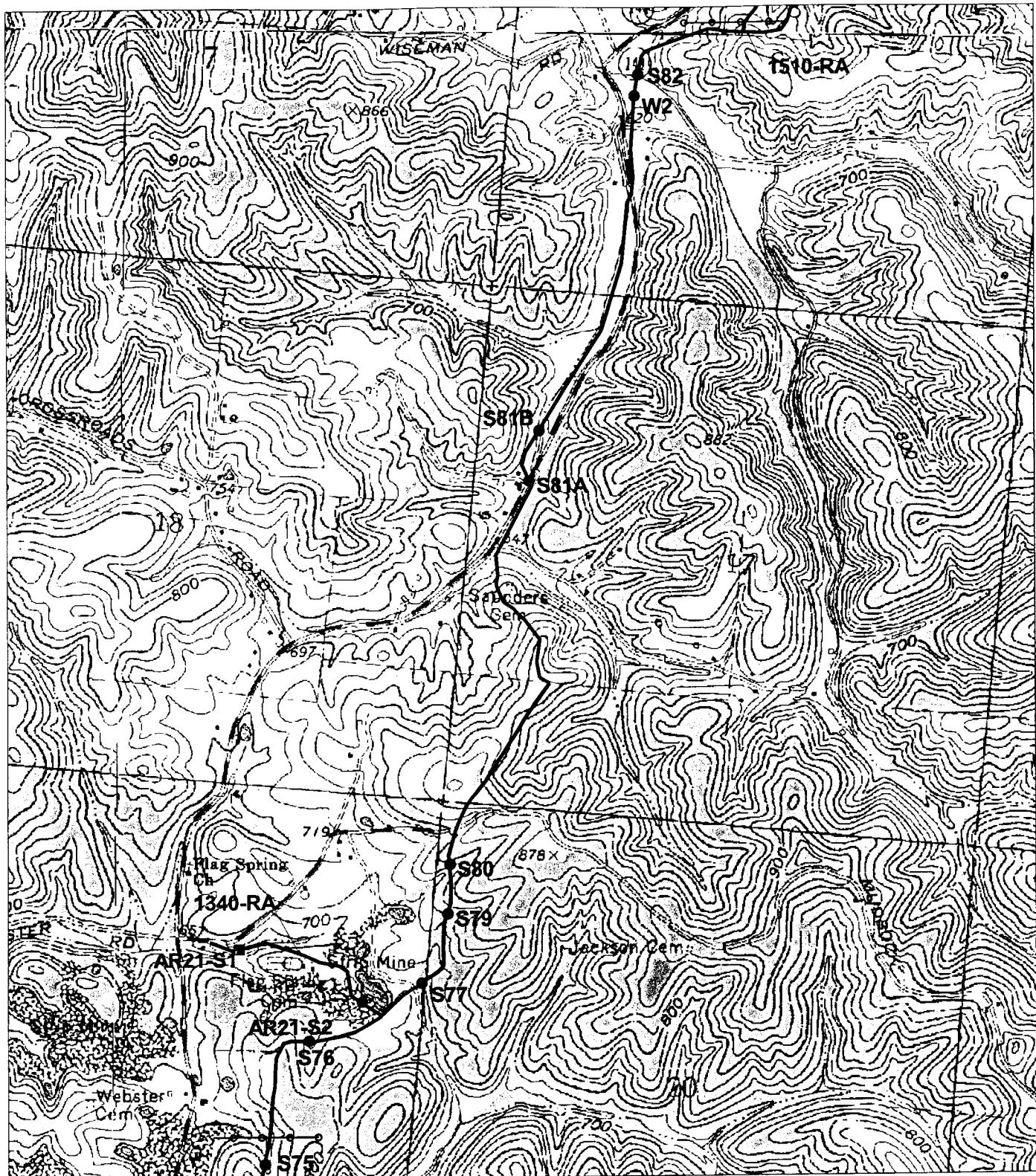
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	● Crossings with Potential Impacts	■ Crossings with Impacts Avoided	▲ Protected Species Occurrence
W	Feet	Sheet 10	July 10, 2001	
E	750 0 750 1500	Sheet Match Line		
S	Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map - Waterloo, OH		



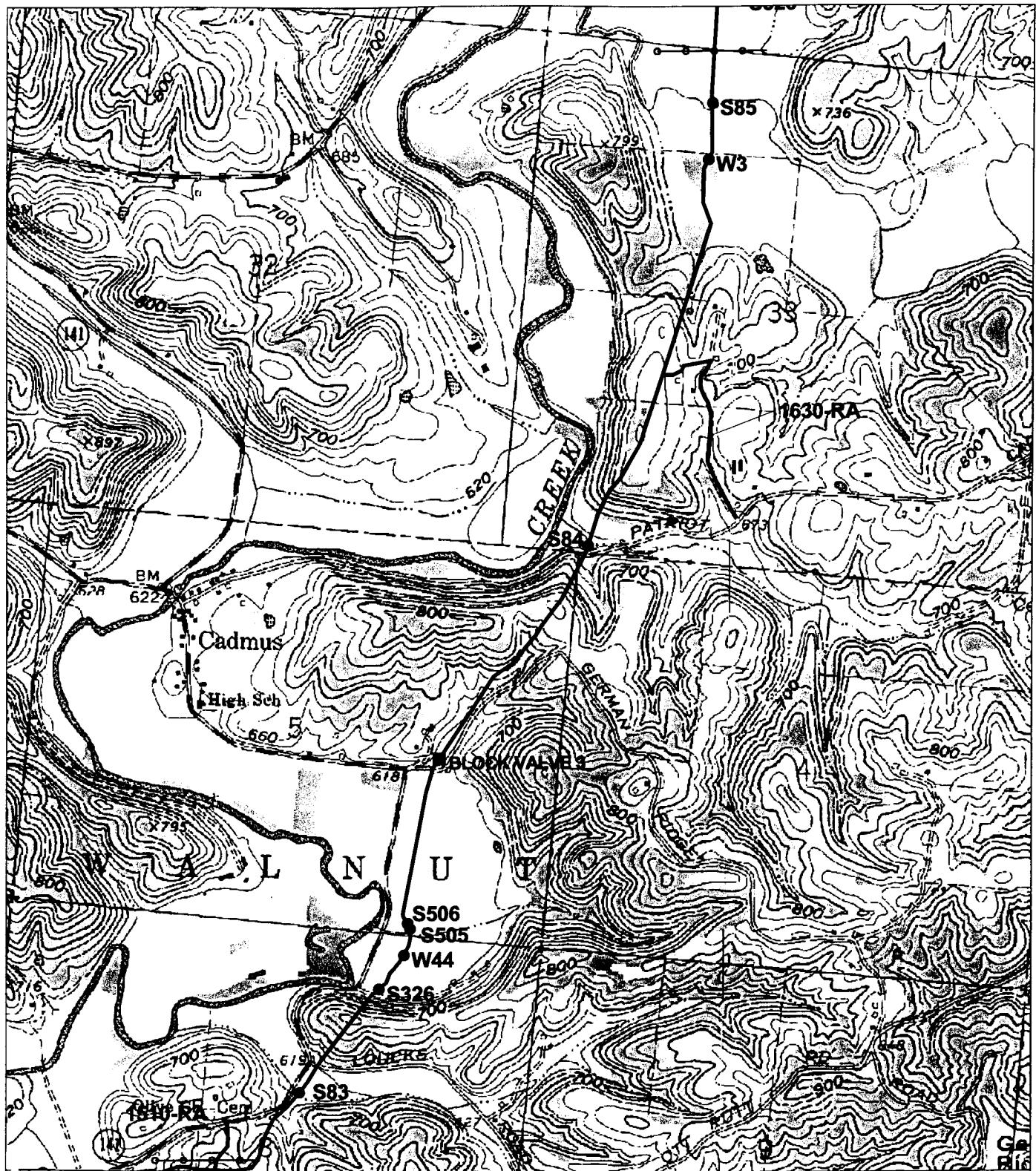
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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		Sheet 11 Sheet Match Line	August 1, 2001	
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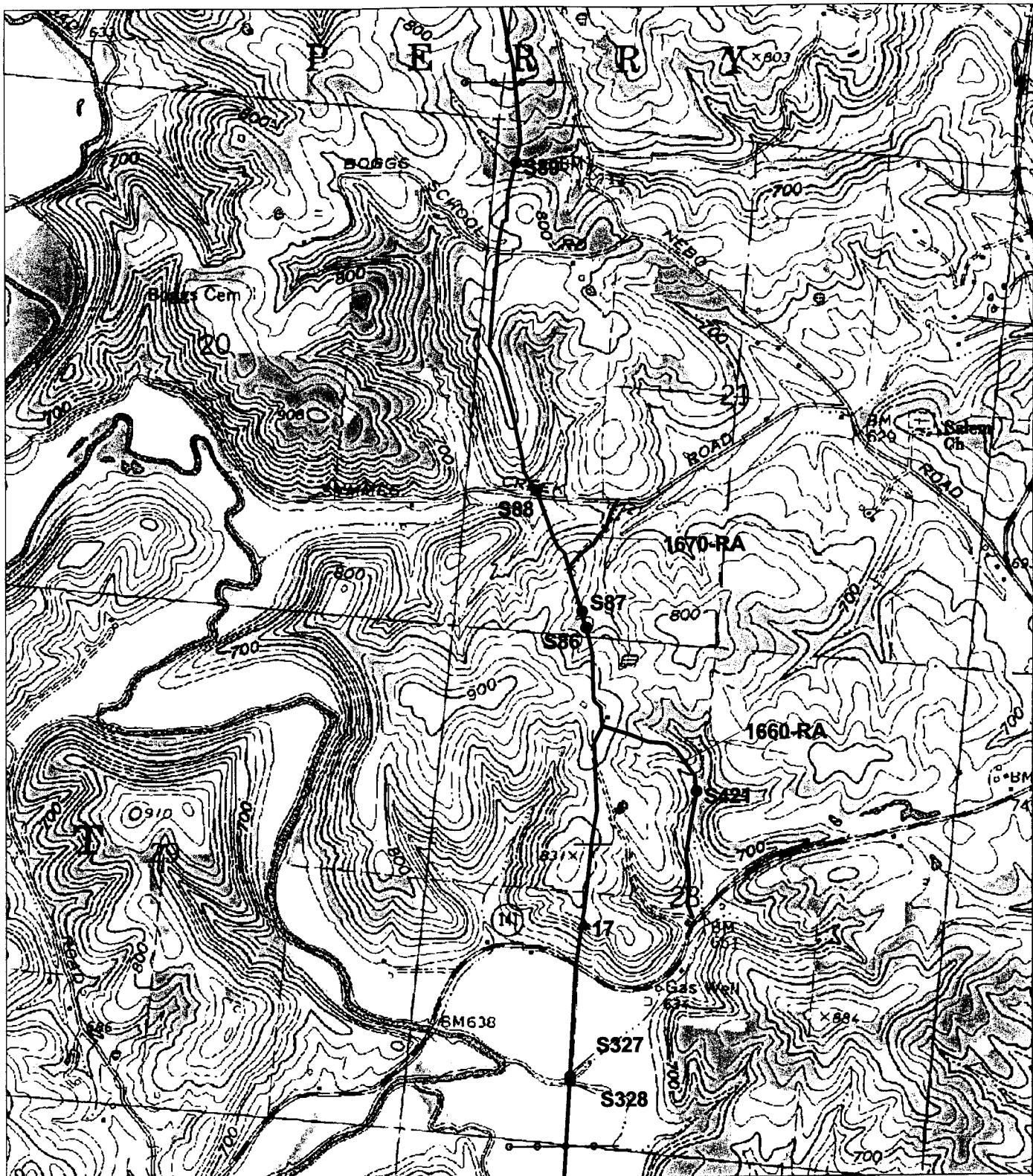
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
		●	■	▲
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Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Maps- Waterloo, OH and Patriot, OH			



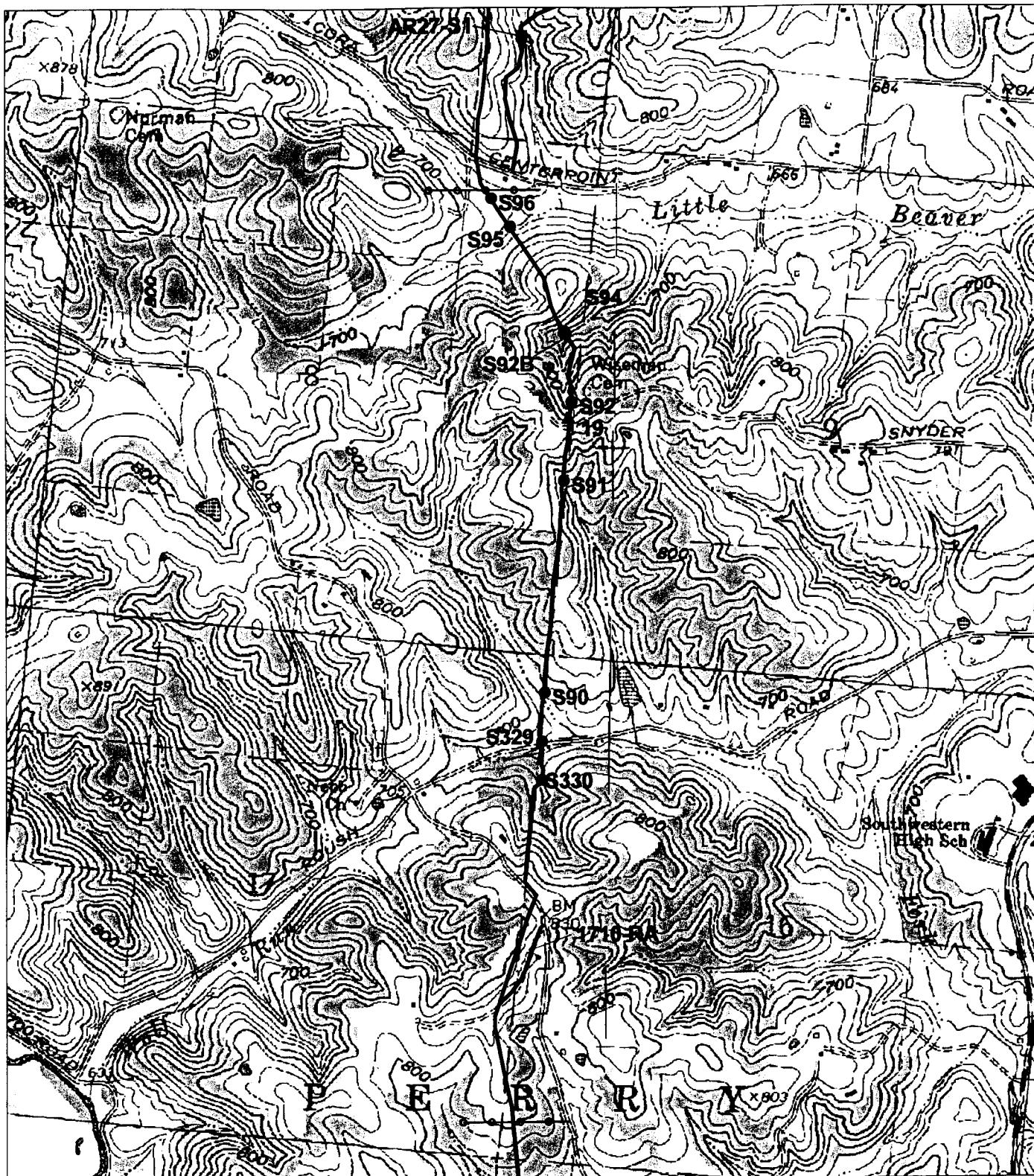
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map- Patriot, OH			



Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
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Project No. 1013.002	Sheet 14 Sheet Match Line			
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			Base Map: USGS 7.5 Minute Topographic Map - Patriot, OH	



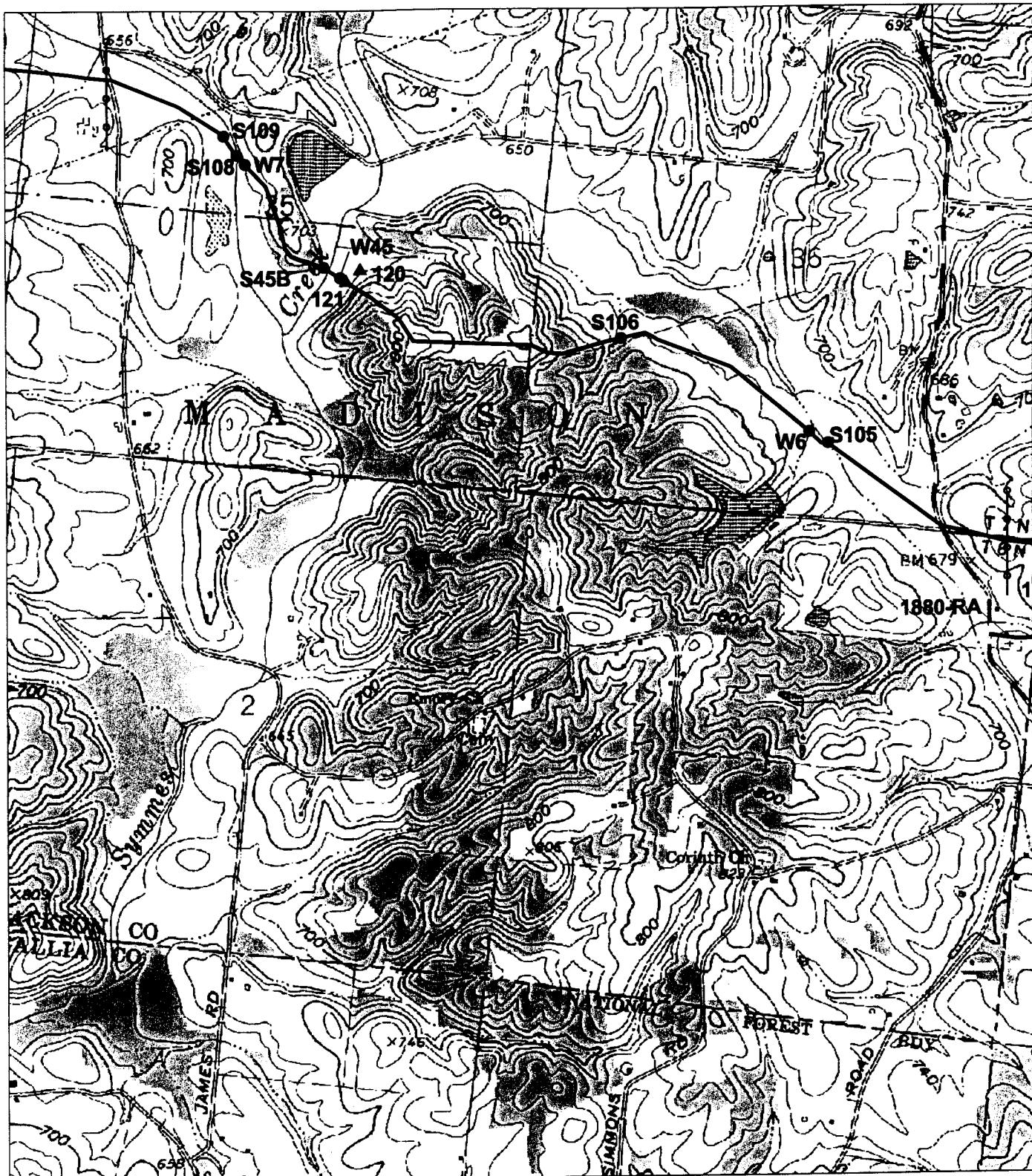
Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	Crossings with Potential Impacts	Crossings with Impacts Avoided	Protected Species Occurrence
W	Feet 750 0 750 1500	Sheet 15 Sheet Match Line	July 27, 2001	
S	Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map - Patriot, OH		



Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	● Crossings with Potential Impacts	■ Crossings with Impacts Avoided	▲ Protected Species Occurrence
	Feet			
W E	750 0 750 1500			
		Sheet 16 Sheet Match Line	July 10, 2001	
	Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map- Patriot, OH		



Proposed Ohio River Pipeline Project Alignment.

BHE Pipeline	Proposed Access Road	● Crossings with Potential Impacts	■ Crossings with Impacts Avoided	▲ Protected Species Occurrence
	Feet 750 0 750 1500		Sheet 17 Sheet Match Line	July 27, 2001
W E	Project No. 1013.002	Base Map: USGS 7.5 Minute Topographic Map- Patriot, OH		